

**KNOWLTON FARMS SOLAR DEVELOPMENT
44 ESTABROOK AVENUE
[PHASE THREE]**

**ASSESSOR'S MAP 49 – LOT 6
–APPLICATION FOR SPECIAL PERMIT–
–APPLICATION FOR SITE PLAN APPROVAL–**

**PLANS AND DESIGN HAVE BEEN DEVELOPED IN ACCORDANCE WITH
THE PERFORMANCE STANDARDS SET FORTH
IN SECTION 4.1 OF THE GRAFTON ZONING BYLAW &
ARTICLE 36: STORMWATER MANAGEMENT BYLAW**

**LOCATED IN
GRAFTON, MASSACHUSETTS**

DATE: JUNE 12, 2018



APPLICANT:

**BLUEWAVE CAPITAL, LLC
137 NEWBURY STREET, FOURTH FLOOR
BOSTON, MASSACHUSETTS 02116**

BLUEWAVE

TEL: (617) 209-3122 FAX: (617) 395-2730
WWW.BLUEWAVE-CAPITAL.COM

RECORD OWNERS:

**KNOWLTON FARMS NOMINEE TRUST
PATRICIA K. KNOWLTON, TRS.
43 ESTABROOK AVENUE
GRAFTON, MASSACHUSETTS 01519**

LAND SURVEYOR/SITE CIVIL ENGINEER:



**MERIDIAN
ASSOCIATES**

500 CUMMINGS CENTER SUITE 5950 69 MILK STREET, SUITE 302
BEVERLY, MASSACHUSETTS 01915 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

ENVIRONMENTAL CONSULTANT:

LEC

LEC ENVIRONMENTAL CONSULTANTS, INC.
100 GROVE STREET, SUITE 302
WORCESTER, MA 01605
TEL: (508) 753-3077 FAX: (508) 753-3177
WWW.LECENVIRONMENTAL.COM

PROJECT SUMMARY:

THE PROJECT PROPOSES THE INSTALLATION OF 402 SOLAR PANEL TABLES EACH CONTAINING 18 SOLAR PANELS FOR A TOTAL OF 7,236 SOLAR PANELS. THE SOLAR PANELS WILL BE INSTALLED AS AN ELEVATED CANOPY THAT WILL ALLOW AGRICULTURAL ACTIVITIES NAMELY, A COMBINATION OF LIGHT LIVESTOCK AND FOOD CROPS TO CONTINUE UNIMPEDED UNDER THE ARRAY (I.E. "DUAL-USE"). THE SOLAR ENERGY FACILITY WILL PRODUCE APPROXIMATELY 2.9 MEGAWATTS DC (MWDC) OF POWER, AND 2.0 MEGAWATTS AC (MWAC) OF POWER.

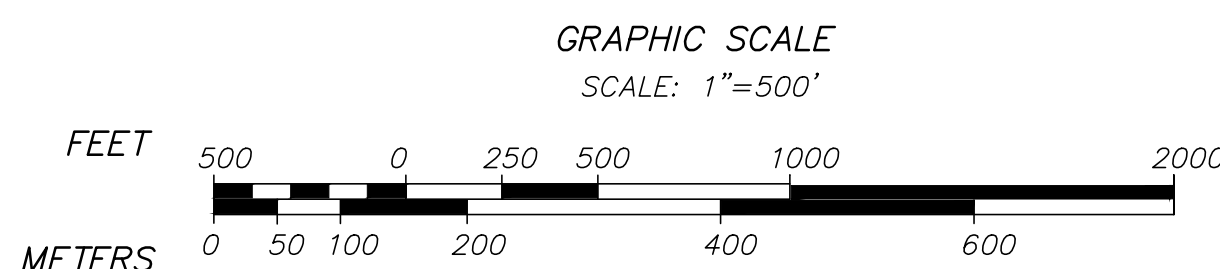
DRAWING INDEX:

SHEET 1	COVER SHEET & LOCUS CONTEXT MAP
SHEET 2	RECORD CONDITIONS PLAN
SHEET 3	PERMIT SITE PLAN OF LAND (DUAL-USE)
SHEET 4	PERMIT SITE PLAN OF LAND (CONVENTIONAL)
SHEET 5	GRADING AND DRAINAGE PLAN
SHEET 6	GRADING AND DRAINAGE PLAN
SHEET 7	GRADING AND DRAINAGE PLAN
SHEET 8	SEDIMENT AND EROSION CONTROL PLAN
SHEET 9	SEDIMENT AND EROSION CONTROL PLAN
SHEET 10	SEDIMENT AND EROSION CONTROL PLAN
SHEET 11	SEDIMENT AND EROSION CONTROL DETAILS
SHEET 12	SITE DETAILS

FOR PERMITTING ONLY,
NOT FOR CONSTRUCTION



LOCUS CONTEXT MAP:



APPROVED BY:
GRAFTON PLANNING BOARD

I, _____ CLERK OF THE TOWN OF GRAFTON,
MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF
THIS PLAN BY THE GRAFTON PLANNING BOARD HAS BEEN RECEIVED AND
RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED
DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF
SAID NOTICE.

"THIS PLAN IS SUBJECT TO A SPECIAL PERMIT DATED _____"

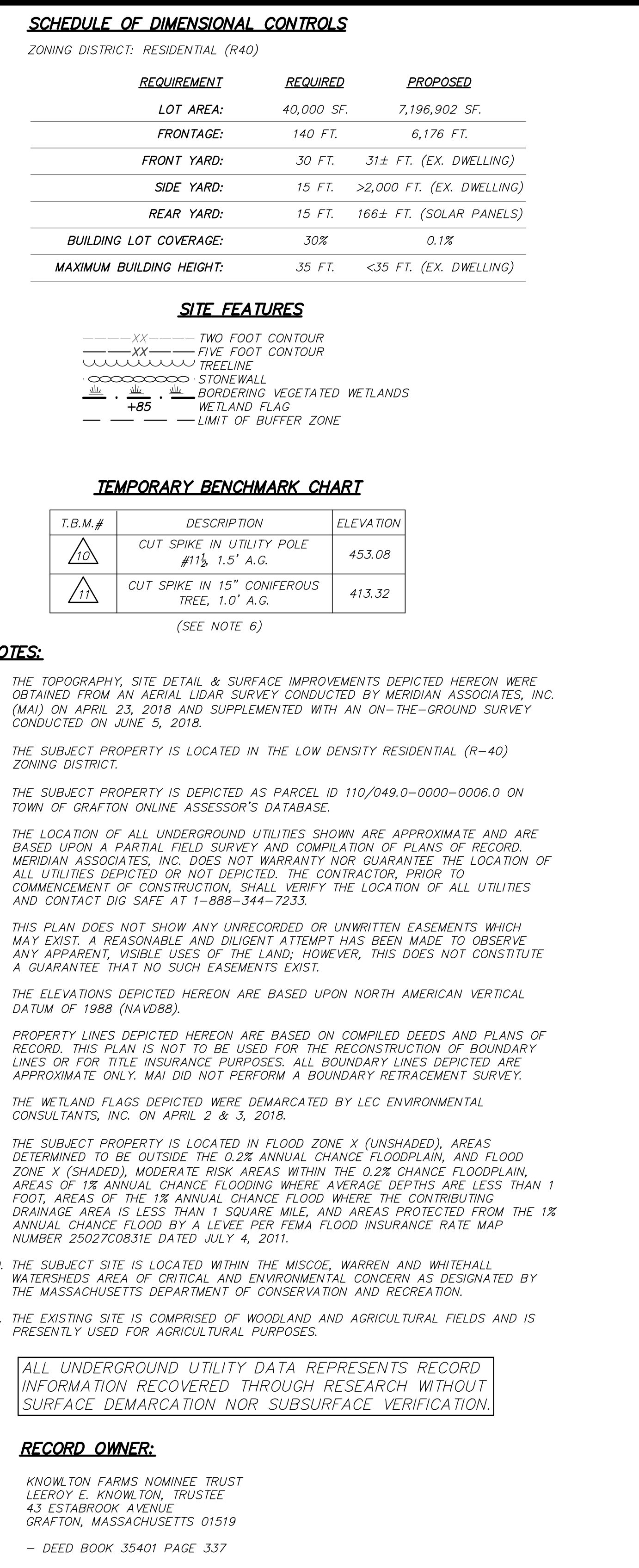
"THIS PLAN IS SUBJECT TO SITE PLAN APPROVAL DATED _____"

"THIS PLAN IS SUBJECT TO A CERTIFICATE OF OF GOOD STANDING DATED JUNE 5, 2018"

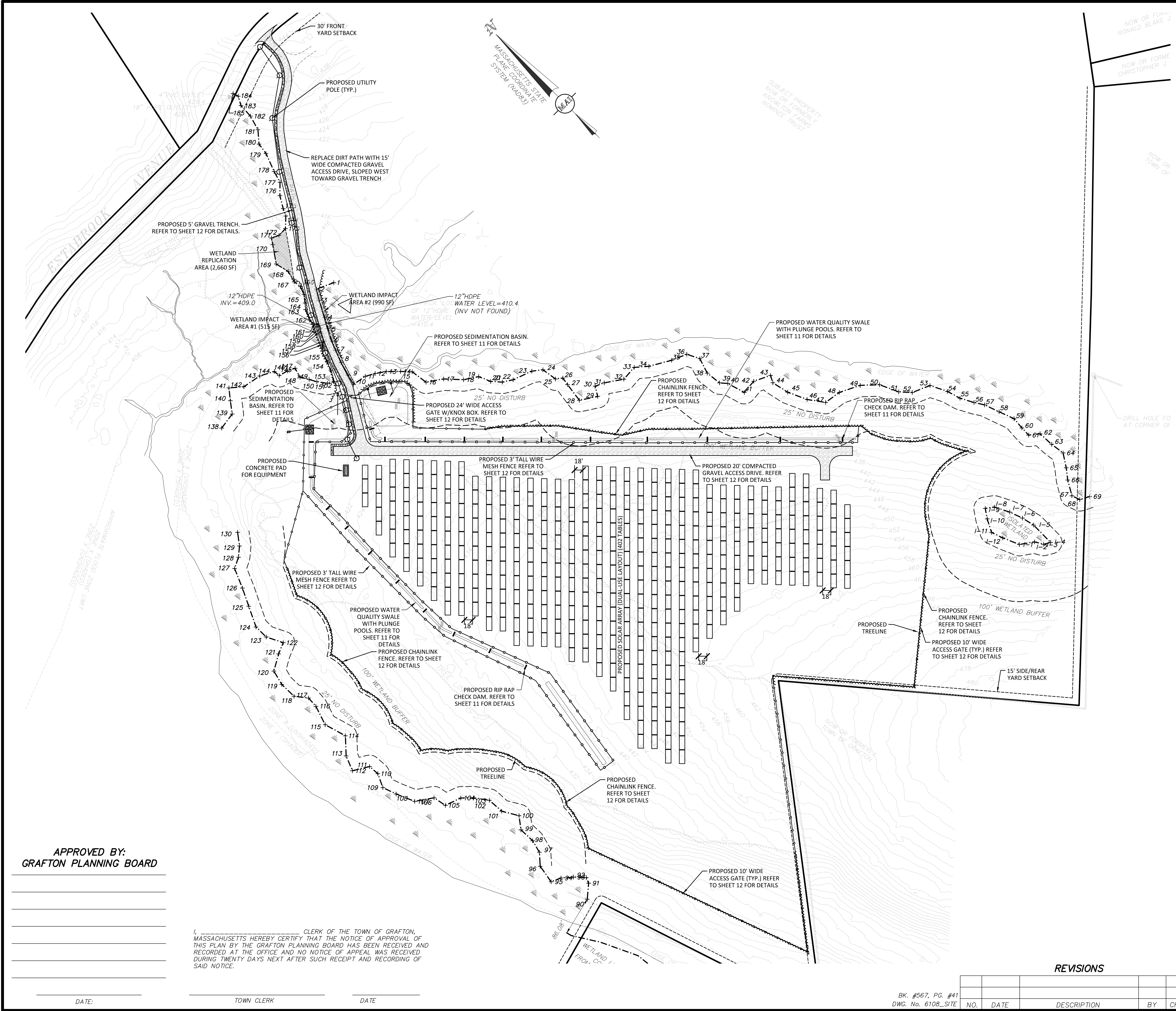
DATE:

TOWN CLERK

DATE



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THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING "NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF TRAVEL FOR MAINTENANCE VEHICLES

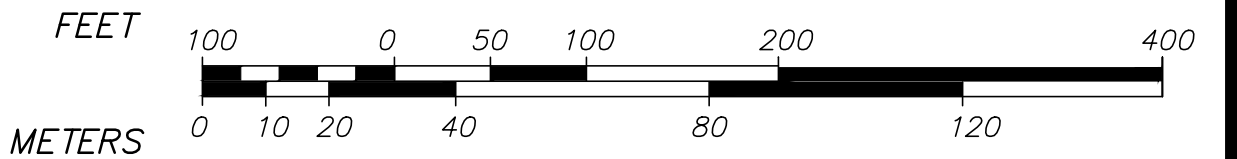
FOR PERMITTING ONLY NOT FOR CONSTRUCTION		SEE SHEET 2 OF 12 FOR GENERAL NOTES AND LEGEND	
MODULES	DC POWER		
7,236	2.9±MW		

- NOTES:**
- THE PROPOSED PROJECT WILL CONSIST OF A LARGE SCALE GROUND MOUNTED SOLAR FARM WITH AGRICULTURAL USES I.E. "DUAL-USE".
 - THE PROPOSED PROJECT DOES NOT INCLUDE IMPERVIOUS AREAS OTHER THAN THE 150 SF CONCRETE PAD FOR THE ELECTRICAL EQUIPMENT. THE SITE IS PRESENTLY OPEN SPACE, AND WILL REMAIN AS OPEN SPACE WITH GROUND MOUNTED SOLAR PANELS.
 - THERE IS NO PROPOSED PARKING AS THE SITE WILL ONLY BE ACCESSED FOR MAINTENANCE AND REPAIRS TO THE SOLAR PANELS AND EQUIPMENT. THERE WILL NOT BE PERSONAL ONSITE ON A REGULAR BASIS.
 - THE SOLAR PANEL TABLES ARE TO BE LAID OUT AS TO PROVIDE EIGHTEEN (18) FEET OF CLEAR SPACE BETWEEN EACH ROW.

- LEGEND:**
- 646 TWO FOOT CONTOUR
 - 710 TEN FOOT CONTOUR
 - BITUMINOUS BERM
 - GRANITE CURB
 - CONCRETE CURB
 - TREELINE
 - SCRUB LINE
 - STEEL GUARDRAIL
 - WIRE FENCE REMAINS
 - STONEWALL
 - EXPOSED ROCK OUTCROP
 - SPOIL PILE
 - SIGN
 - WITNESS POST
 - SHRUB
 - TREE
 - BORDERING VEGETATED WETLANDS
 - WETLAND FLAG
 - LIMIT OF BUFFER ZONE
 - OVERHEAD WIRES
 - OHW
 - ELECTRIC LINE
 - UTILITY POLE
 - GUY WIRE
 - ELECTRIC BOX
 - DRAIN MANHOLE
 - CATCH BASIN
 - BOULDER
 - TERMINUS UNKNOWN
 - BITUMINOUS BERM
 - BIT. CONC.
 - CONC.
 - CC
 - EDGE OF PAVEMENT
 - GC
 - GRANITE CURB
 - UGE
 - UNDERGROUND ELECTRIC

- PROPOSED LEGEND:**
- PROPOSED TREELINE
 - PROPOSED CONTOUR
 - PROPOSED CHAINLINK FENCE
 - PROPOSED WIRE MESH FENCE
 - PE
 - POHW
 - PROPOSED UNDERGROUND ELECTRIC LINE
 - PROPOSED OVERHEAD WIRES
 - PROPOSED UTILITY POLE

GRAPHIC SCALE
SCALE: 1"=100'



APPROVED BY:
GRAFTON PLANNING BOARD

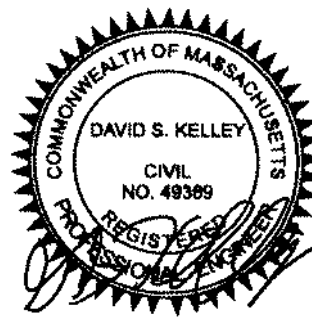
I, _____ CLERK OF THE TOWN OF GRAFTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GRAFTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

DATE: _____ TOWN CLERK _____ DATE _____

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D


BK. #567, PG. #41
DWG. No. 6108_SITE



DAVID S. KELLEY
CIVIL NO. 49359

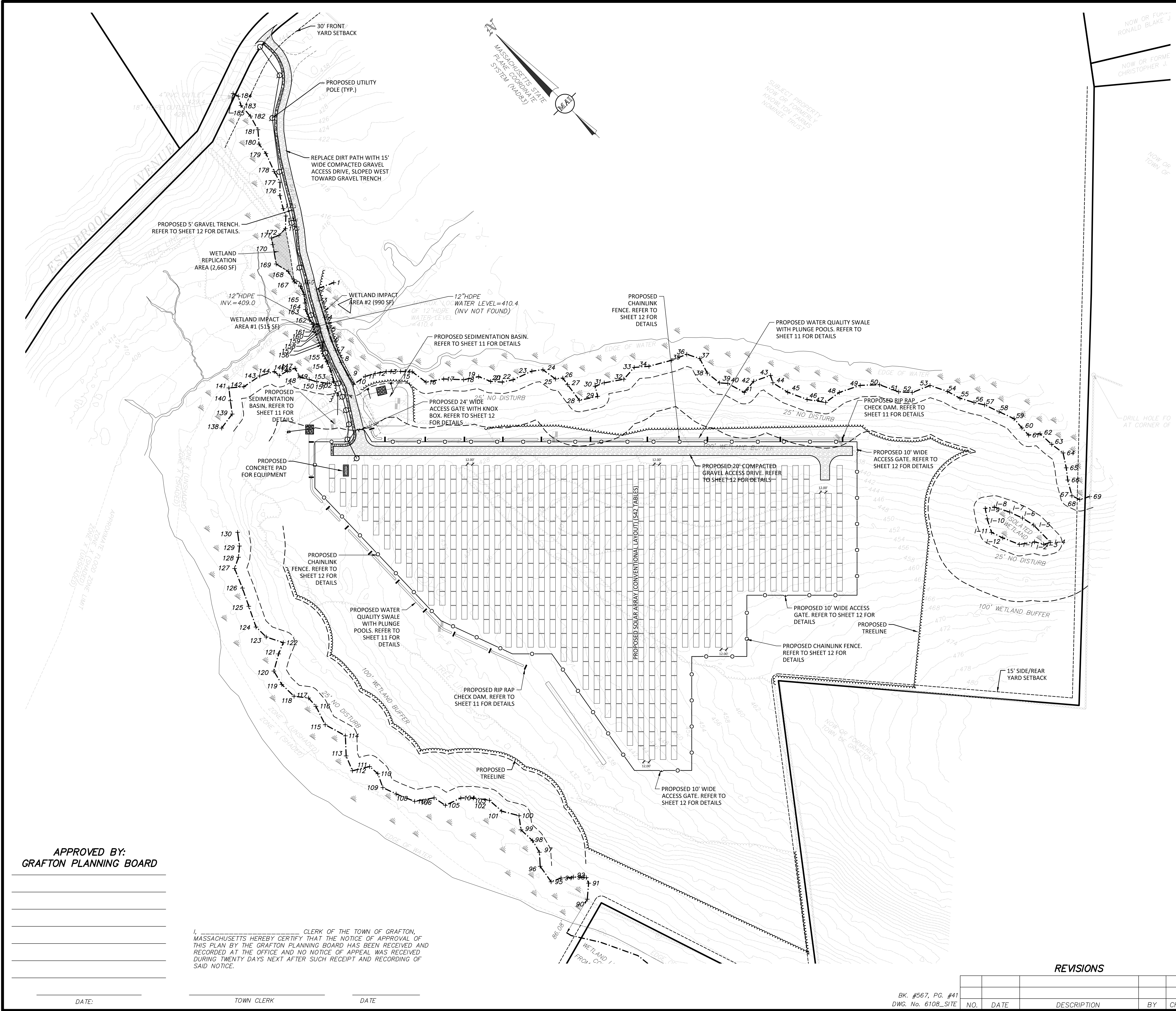
44 ESTABROOK AVENUE
PERMIT SITE PLAN OF LAND (DUAL-USE)
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: 1"= 100' DATE: JUNE 12, 2018



MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 3 OF 12 PROJECT No. 6108



THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING "NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF TRAVEL FOR MAINTENANCE VEHICLES

FOR PERMITTING ONLY NOT FOR CONSTRUCTION	SEE SHEET 2 OF 12 FOR GENERAL NOTES AND LEGEND
MODULES	DC POWER
9,756	3.9±MW

NOTES:

- THE PROPOSED PROJECT WILL CONSIST OF A LARGE SCALE GROUND MOUNTED SOLAR FARM WITH A CONVENTIONAL LAYOUT.
- THE PROPOSED PROJECT DOES NOT INCLUDE IMPERVIOUS AREAS OTHER THAN THE 150 SF CONCRETE PAD FOR THE ELECTRICAL EQUIPMENT. THE SITE IS PRESENTLY OPEN SPACE, AND WILL REMAIN AS OPEN SPACE WITH GROUND MOUNTED SOLAR PANELS.
- THERE IS NO PROPOSED PARKING AS THE SITE WILL ONLY BE ACCESSED FOR MAINTENANCE AND REPAIRS TO THE SOLAR PANELS AND EQUIPMENT. THERE WILL NOT BE PERSONAL ONSITE ON A REGULAR BASIS.
- THE SOLAR PANEL TABLES ARE TO BE LAID OUT AS TO PROVIDE TWELVE (12) FEET OF CLEAR SPACE BETWEEN EACH ROW.

LEGEND:

- 646 TWO FOOT CONTOUR
- 710 TEN FOOT CONTOUR
- BITUMINOUS BERM
- GRANITE CURB
- CONCRETE CURB
- TREELINE
- SCRUB LINE
- STEEL GUARDRAIL
- WIRE FENCE REMAINS
- STONEWALL
- EXPOSED ROCK OUTCROP
- SPOIL PILE
- SIGN
- WITNESS POST
- SHRUB
- TREE
- BORDERING VEGETATED WETLANDS
- WETLAND FLAG
- LIMIT OF BUFFER ZONE
- OVERHEAD WIRES
- OHW
- ELECTRIC LINE
- UTILITY POLE
- GUY WIRE
- ELECTRIC BOX
- DRAIN MANHOLE
- CATCH BASIN
- BOULDER
- TERMINUS UNKNOWN
- BITUMINOUS BERM
- BIT. CONC.
- CC
- EOP
- GC
- UGE

PROPOSED LEGEND:

- PROPOSED TREELINE
- PROPOSED CONTOUR
- PROPOSED CHAINLINK FENCE
- PROPOSED WIRE MESH FENCE
- PE
- POHW
- PROPOSED UNDERGROUND ELECTRIC LINE
- PROPOSED OVERHEAD WIRES
- PROPOSED UTILITY POLE

GRAPHIC SCALE
SCALE: 1"=100'

FEET 0 100 0 50 100 200 400
METERS 0 10 20 40 80 120

44 ESTABROOK AVENUE
PERMIT SITE PLAN OF LAND (CONVENTIONAL)
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: 1"= 100' DATE: JUNE 12, 2018

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-6447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

REVISIONS

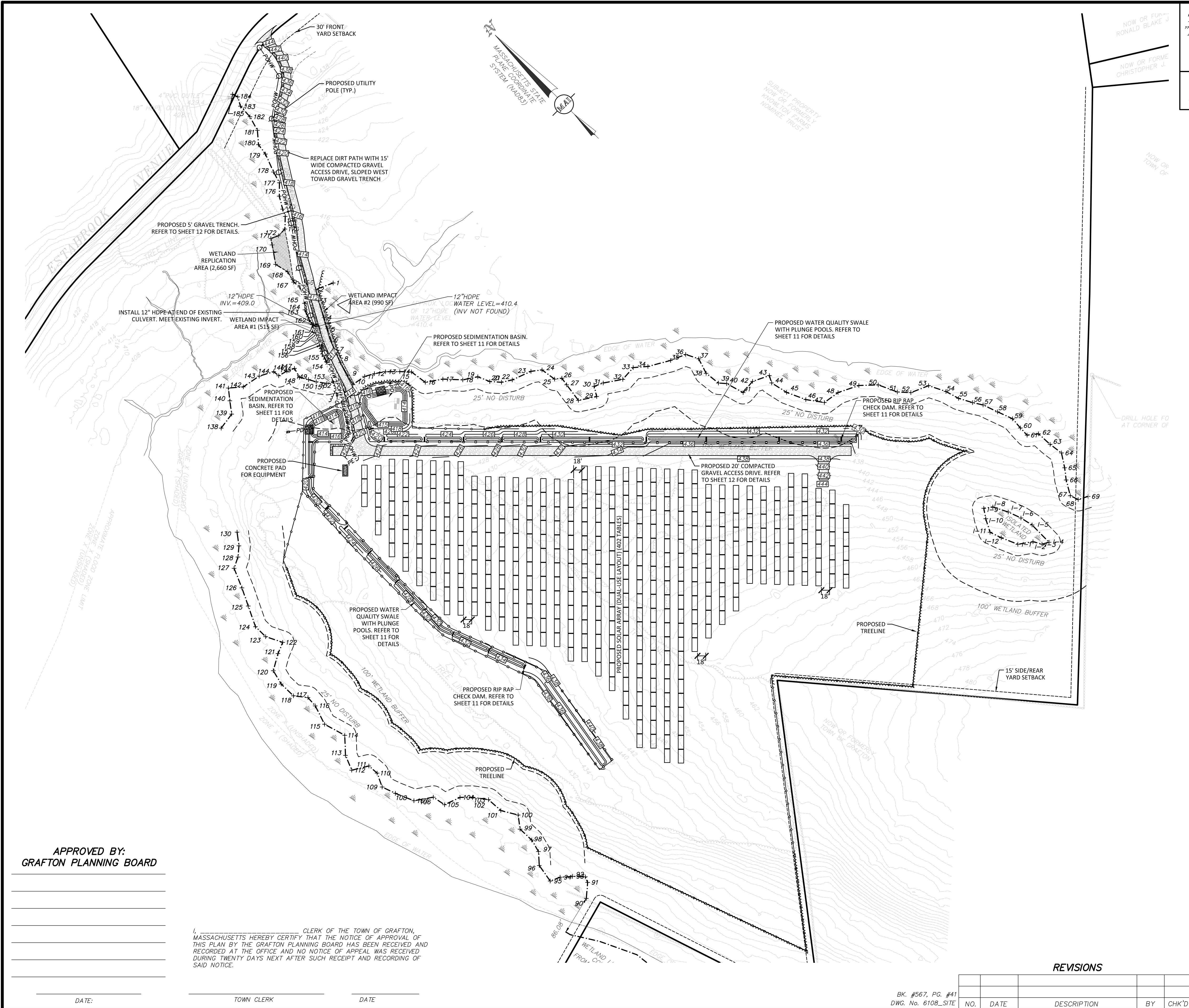
NO.	DATE	DESCRIPTION	BY	CHK'D

APPROVED BY:
GRAFTON PLANNING BOARD

DATE: _____ TOWN CLERK _____ DATE _____

CLERK OF THE TOWN OF GRAFTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GRAFTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

BK. #567, PG. #41
DWG. No. 6108_SITE



THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING "NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF TRAVEL FOR MAINTENANCE VEHICLES

FOR PERMITTING ONLY NOT FOR CONSTRUCTION	SEE SHEET 2 OF 12 FOR GENERAL NOTES AND LEGEND
MODULES	DC POWER
7,236	2.9±MW

NOTES:

1. IT IS ANTICIPATED THAT LESS THAN 100 CUBIC YARDS OF MATERIAL WILL NEED TO BE REMOVED FROM THE SITE, EXCLUDING VEGETATION NEEDED TO BE REMOVED AS A PART OF THE PROPOSED PROJECT.

LEGEND:

- 646 TWO FOOT CONTOUR
- 710 TEN FOOT CONTOUR
- BUTYMINOUS BERM
- GRANITE CURB
- CONCRETE CURB
- TREELINE
- SCRUB LINE
- STEEL GUARDRAIL
- WIRE FENCE REMAINS
- STONEWALL
- EXPOSED ROCK OUTCROP
- SPOIL PILE
- SGN SIGN
- WITNESS POST
- SHRUB
- TREE
- BORDERING VEGETATED WETLANDS
- WETLAND FLAG
- LIMIT OF BUFFER ZONE
- OHW OVERHEAD WIRES
- ELECTRIC LINE
- UTILITY POLE
- GUY WIRE
- ELECTRIC BOX
- DRAIN MANHOLE
- CATCH BASIN
- BOULDER
- TERMINUS UNKNOWN
- BB BUTYMINOUS BERM
- BIT. CONC. BITUMINOUS CONCRETE
- CC CONCRETE CURB
- EOP EDGE OF PAVEMENT
- GC GRANITE CURB
- UGE UNDERGROUND ELECTRIC

PROPOSED LEGEND:

- PROPOSED TREELINE
- PROPOSED CONTOUR
- PROPOSED CHAINLINK FENCE
- PROPOSED WIRE MESH FENCE
- PE PROPOSED UNDERGROUND ELECTRIC LINE
- POHW PROPOSED OVERHEAD WIRES
- PROPOSED UTILITY POLE

GRAPHIC SCALE
SCALE: 1"=100'

FEET 0 100 0 50 100 200 400
METERS 0 10 20 40 80 120

APPROVED BY:
GRAFTON PLANNING BOARD

DATE: _____ TOWN CLERK DATE _____

CLERK OF THE TOWN OF GRAFTON,
MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF
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REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

BK. #567, PG. #41
DWG. No. 6108_SITE

44 ESTABROOK AVENUE
GRADING AND DRAINAGE PLAN
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

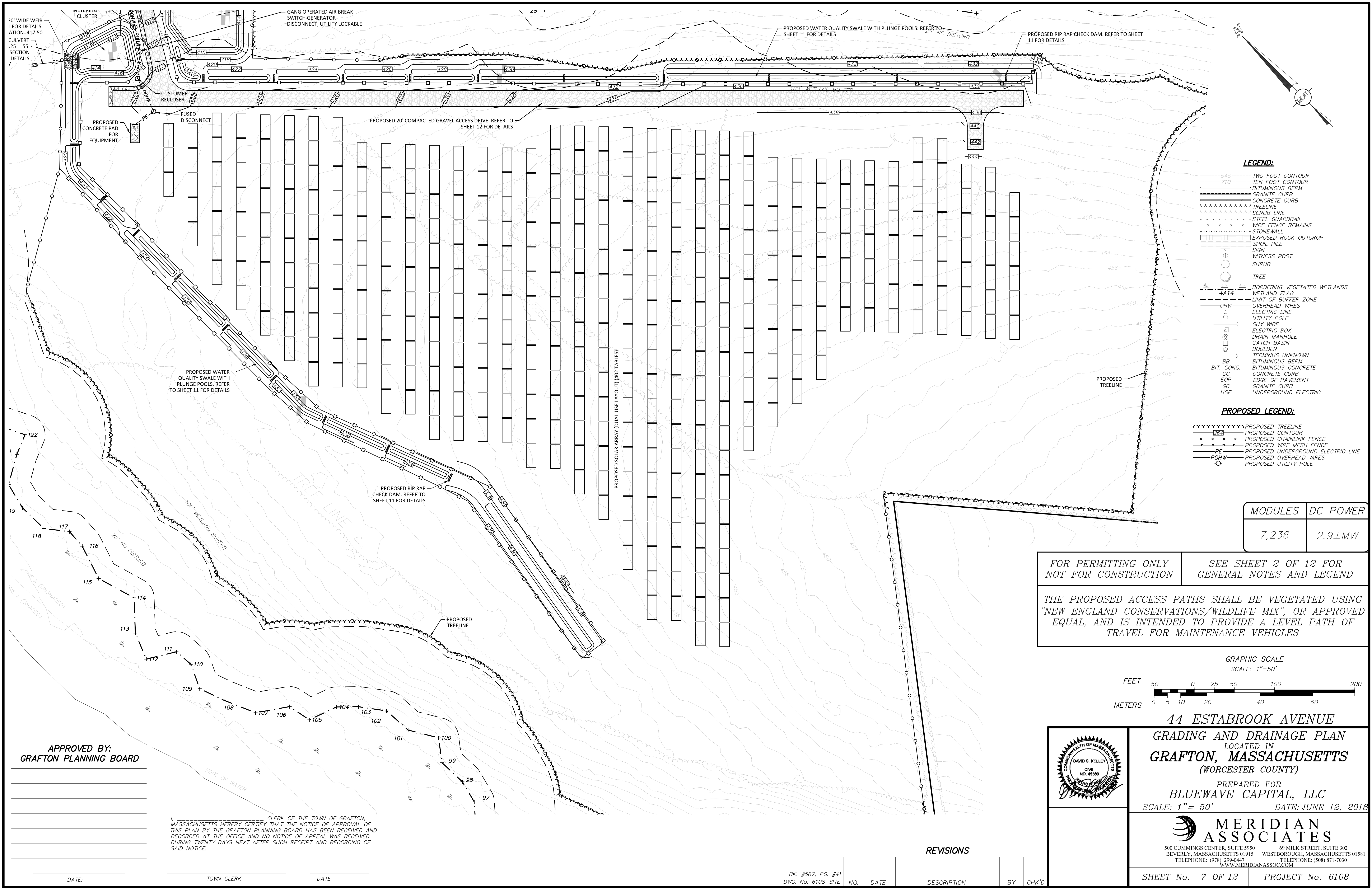
PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: 1"= 100' DATE: JUNE 12, 2018

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 5 OF 12 PROJECT No. 6108

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DWG FILE: 6108 SITE.dwg 9:37am PLOTTED: Jun 12, 2018 dkelly



LEGEND:

- TWO FOOT CONTOUR
- TEN FOOT CONTOUR
- BITUMINOUS BERM
- GRANITE CURB
- CONCRETE CURB
- TREELINE
- SCRUB LINE
- STEEL GUARDRAIL
- WIRE FENCE REMAINS
- STONEWALL
- EXPOSED ROCK OUTCROP
- SPOIL PILE
- SIGN
- WITNESS POST
- SHRUB
- TREE
- BORDERING VEGETATED WETLANDS
- WETLAND FLAG
- LIMIT OF BUFFER ZONE
- OVERHEAD WIRES
- ELECTRIC LINE
- UTILITY POLE
- GUY WIRE
- ELECTRIC BOX
- DRAIN MANHOLE
- CATCH BASIN
- BOULDER
- TERMINUS UNKNOWN
- BITUMINOUS BERM
- BIT. CONC.
- CC
- EOP
- GC
- UGE

PROPOSED LEGEND:

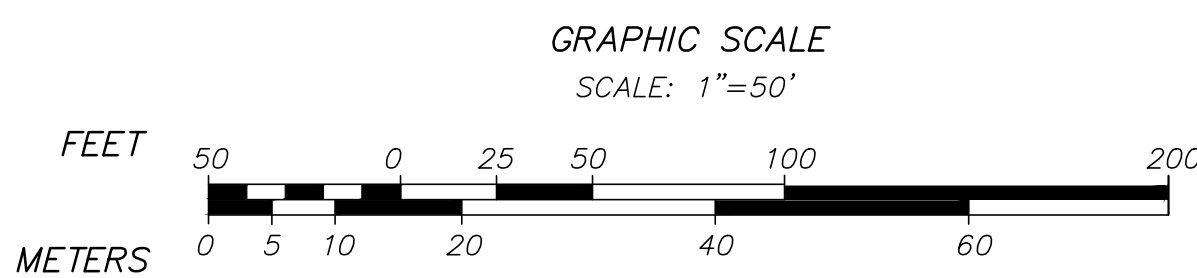
- PROPOSED TREELINE
- PROPOSED CONTOUR
- PROPOSED CHAINLINK FENCE
- PROPOSED WIRE MESH FENCE
- PE
- POHW
- PROPOSED OVERHEAD WIRES
- PROPOSED UTILITY POLE

MODULES	DC POWER
7,236	2.9±MW

FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

SEE SHEET 2 OF 12 FOR
GENERAL NOTES AND LEGEND

THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING
"NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED
EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF
TRAVEL FOR MAINTENANCE VEHICLES



APPROVED BY:
GRAFTON PLANNING BOARD

DATE: _____

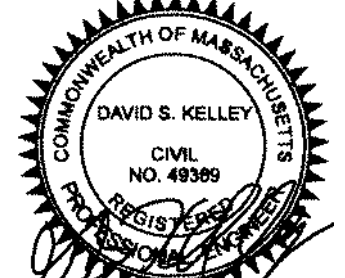
CLERK OF THE TOWN OF GRAFTON,
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SAID NOTICE.

TOWN CLERK DATE

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D


BK. #567, PG. #41
DWG. No. 6108_SITE



DAVID S. KELLEY
CIVIL
NO. 49359

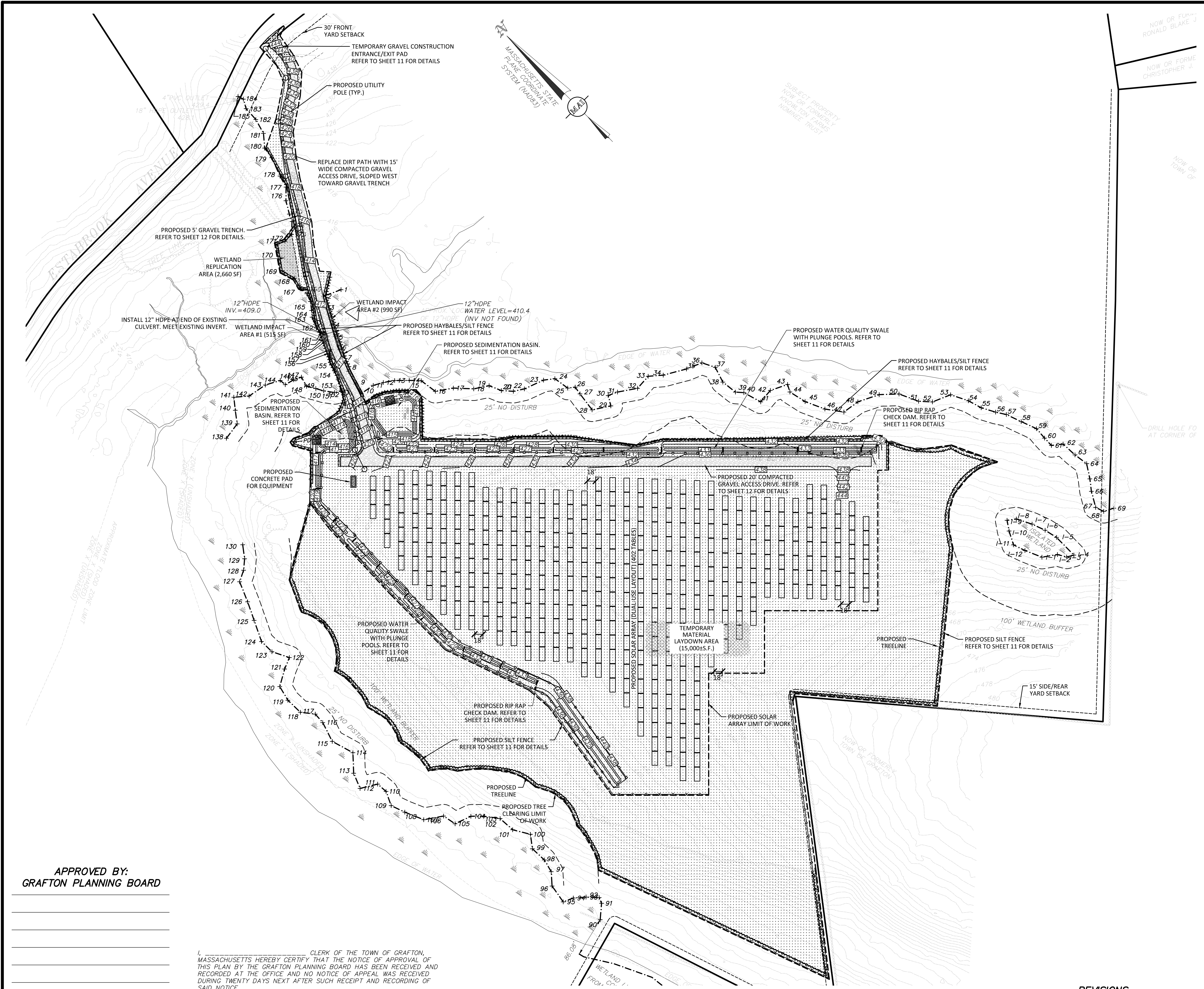
44 ESTABROOK AVENUE
GRAVING AND DRAINAGE PLAN
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: 1" = 50' DATE: JUNE 12, 2018

 **MERIDIAN ASSOCIATES**
500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
TELEPHONE: (978) 299-0447 WWW.MERIDIANASSOC.COM

69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (508) 871-7030

SHEET No. 7 OF 12 PROJECT No. 6108



THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING "NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF TRAVEL FOR MAINTENANCE VEHICLES

FOR PERMITTING ONLY NOT FOR CONSTRUCTION	SEE SHEET 2 OF 12 FOR GENERAL NOTES AND LEGEND
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MODULES	DC POWER
7,236	2.9±MW

EROSION CONTROL LEGEND:

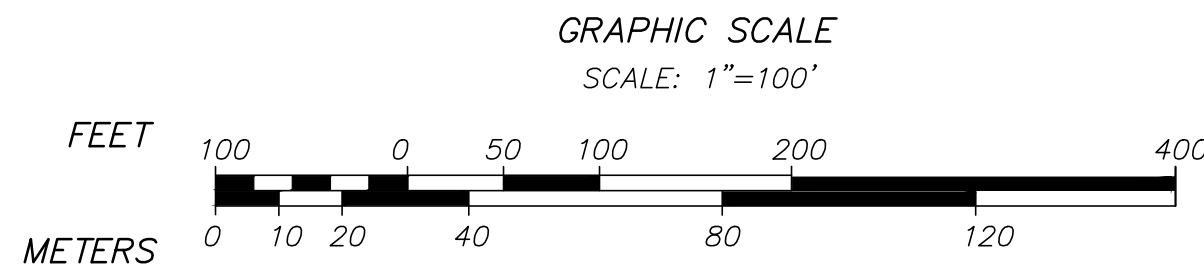
- PROPOSED HAYBALES & SILT FENCE
- NEW ENGLAND CONSERVATION/WILDLIFE MIX PLANTING AREA
- RIPRAP AREA
- PROPOSED SILT FENCE

LEGEND:

- TWO FOOT CONTOUR
- TEN FOOT CONTOUR
- BITUMINOUS BERM
- GRANITE CURB
- CONCRETE CURB
- TREELINE
- SCRUB LINE
- STEEL GUARDRAIL
- WIRE FENCE REMAINS
- STONEWALL
- EXPOSED ROCK OUTCROP
- SPOIL PILE
- SIGN
- WITNESS POST
- SHRUB
- TREE
- BORDERING VEGETATED WETLANDS
- WETLAND FLAG
- LIMIT OF BUFFER ZONE
- OVERHEAD WIRES
- ELECTRIC LINE
- UTILITY POLE
- GUY WIRE
- ELECTRIC BOX
- DRAIN MANHOLE
- CATCH BASIN
- BOULDER
- TERMINUS UNKNOWN
- BITUMINOUS BERM
- BIT. CONC.
- CC
- EOP
- GC
- UGE

PROPOSED LEGEND:

- PROPOSED TREELINE
- PROPOSED CONTOUR
- PROPOSED CHAINLINK FENCE
- PROPOSED WIRE MESH FENCE
- PROPOSED UNDERGROUND ELECTRIC LINE
- POHW
- PROPOSED OVERHEAD WIRES
- PROPOSED UTILITY POLE



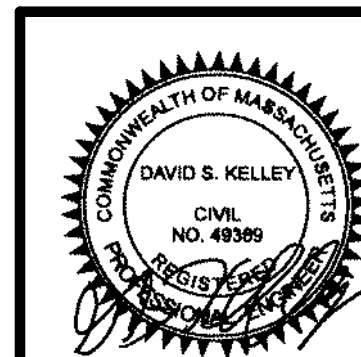
APPROVED BY:
GRAFTON PLANNING BOARD

I, CLERK OF THE TOWN OF GRAFTON, MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE GRAFTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE.

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

BK. #567, PG. #41
DWG. No. 6108_SITE



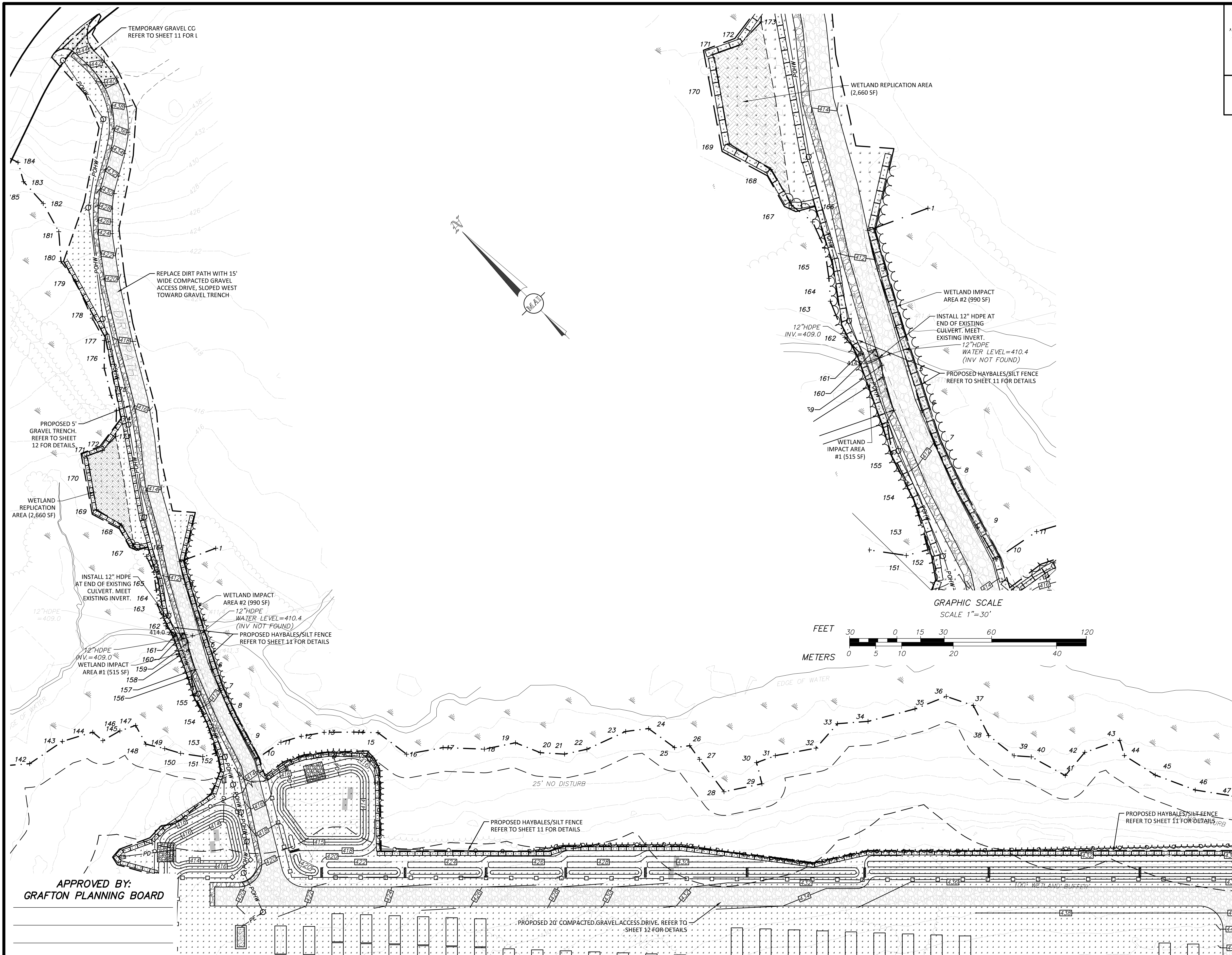
44 ESTABROOK AVENUE
SEDIMENT AND EROSION CONTROL PLAN
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: 1"= 100' DATE: JUNE 12, 2018

MERIDIAN ASSOCIATES

500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 8 OF 12 PROJECT No. 6108



THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING "NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF TRAVEL FOR MAINTENANCE VEHICLES

FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

SEE SHEET 2 OF 12 FOR
GENERAL NOTES AND LEGEND

MODULES	DC POWER
7,236	2.9±MW

EROSION CONTROL LEGEND:

- PROPOSED HAYBALES & SILT FENCE
- NEW ENGLAND CONSERVATIONS/WILDLIFE MIX PLANTING AREA
- RIPRAP AREA
- PROPOSED SILT FENCE

LEGEND:

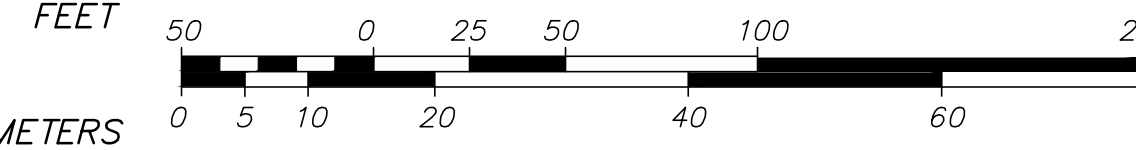
- TWO FOOT CONTOUR
- TEN FOOT CONTOUR
- BITUMINOUS BERM
- GRANITE CURB
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- SCRUB LINE
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- TERMINUS UNKNOWN
- BITUMINOUS BERM
- BITUMINOUS CONCRETE
- CONCRETE CURB
- EDGE OF PAVEMENT
- GRANITE CURB
- UNDERGROUND ELECTRIC

PROPOSED LEGEND:

- PROPOSED TREELINE
- PROPOSED CONTOUR
- PROPOSED CHAINLINK FENCE
- PROPOSED WIRE MESH FENCE
- PROPOSED UNDERGROUND ELECTRIC LINE
- PROPOSED OVERHEAD WIRES
- PROPOSED UTILITY POLE

GRAPHIC SCALE

SCALE: 1"=50'



44 ESTABROOK AVENUE

SEDIMENT AND EROSION CONTROL PLAN
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: AS NOTED DATE: JUNE 12, 2018

MERIDIAN ASSOCIATES

500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 9 OF 12 PROJECT No. 6108

REVISIONS

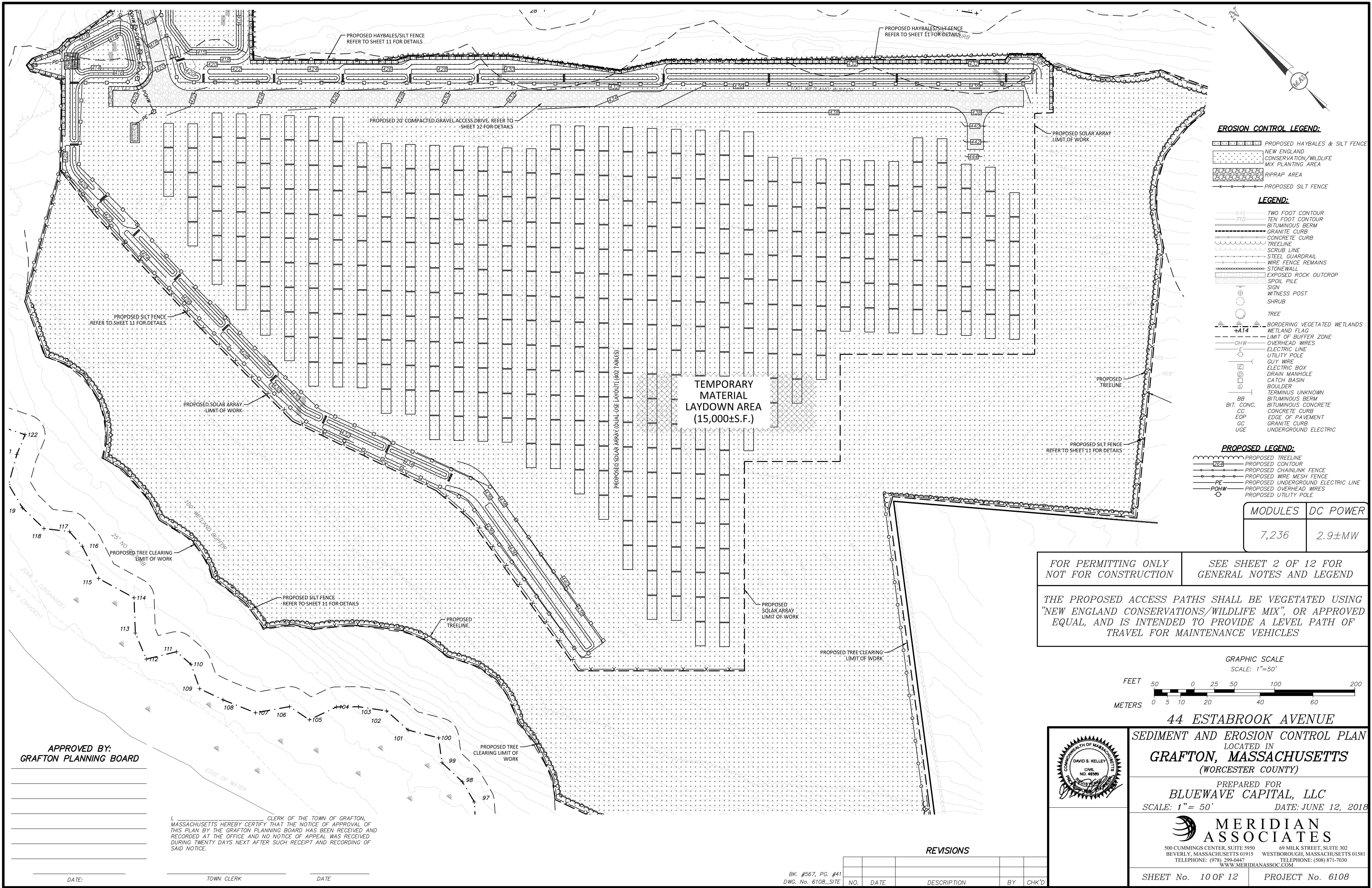
NO.	DATE	DESCRIPTION	BY	CHK'D

BK. #567, PG. #41
DWG. No. 6108_SITE

CLERK OF THE TOWN OF GRAFTON,
MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF
THIS PLAN BY THE GRAFTON PLANNING BOARD HAS BEEN RECEIVED AND
RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED
DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF
SAID NOTICE.

APPROVED BY:
GRAFTON PLANNING BOARD

DATE: TOWN CLERK DATE



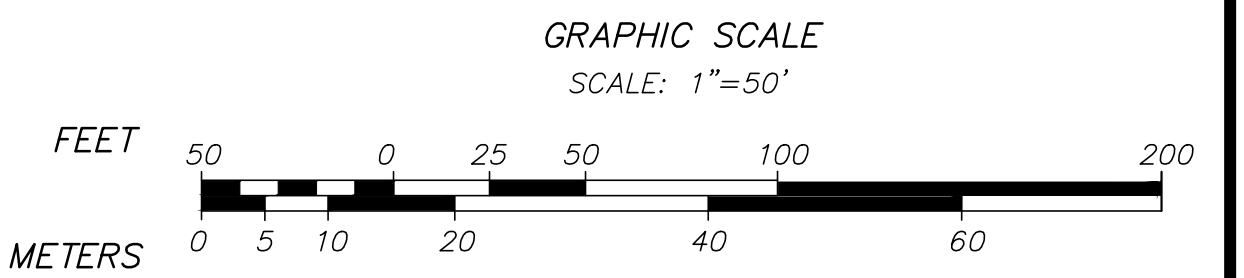
- EROSION CONTROL LEGEND:**
- PROPOSED HAYBALES & SILT FENCE
 - NEW ENGLAND CONSERVATION/WILDLIFE MIX PLANTING AREA
 - RIPRAP AREA
 - PROPOSED SILT FENCE
- LEGEND:**
- TWO FOOT CONTOUR
 - TEN FOOT CONTOUR
 - BITUMINOUS BERM
 - GRANITE CURB
 - CONCRETE CURB
 - TREELINE
 - STEEL GUARDRAIL
 - WIRE FENCE REMAINS
 - STONEWALL
 - EXPOSED ROCK OUTCROP
 - SPOIL PILE
 - SGN
 - WITNESS POST
 - SHRUB
 - TREE
 - BORDERING VEGETATED WETLANDS
 - WETLAND FLAG
 - LIMIT OF BUFFER ZONE
 - OVERHEAD WIRES
 - ELECTRIC LINE
 - UTILITY POLE
 - GUY WIRE
 - ELECTRIC BOX
 - DRAIN MANHOLE
 - CATCH BASIN
 - BOULDER
 - TERMINUS UNKNOWN
 - BB
 - BIT. CONC.
 - CC
 - EOP
 - GC
 - UGE
- PROPOSED LEGEND:**
- PROPOSED TREELINE
 - PROPOSED CONTOUR
 - PROPOSED CHAINLINK FENCE
 - PROPOSED WIRE MESH FENCE
 - PROPOSED UNDERGROUND ELECTRIC LINE
 - PE
 - POHW
 - PROPOSED OVERHEAD WIRES
 - PROPOSED UTILITY POLE

MODULES	DC POWER
7,236	2.9±MW

FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

SEE SHEET 2 OF 12 FOR
GENERAL NOTES AND LEGEND

THE PROPOSED ACCESS PATHS SHALL BE VEGETATED USING
"NEW ENGLAND CONSERVATIONS/WILDLIFE MIX", OR APPROVED
EQUAL, AND IS INTENDED TO PROVIDE A LEVEL PATH OF
TRAVEL FOR MAINTENANCE VEHICLES



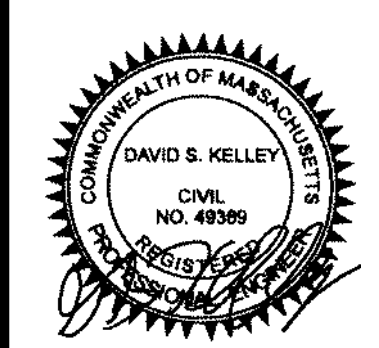
APPROVED BY:
GRAFTON PLANNING BOARD

I, _____ CLERK OF THE TOWN OF GRAFTON,
MASSACHUSETTS HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF
THIS PLAN BY THE GRAFTON PLANNING BOARD HAS BEEN RECEIVED AND
RECORDED AT THE OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED
DURING TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF
SAID NOTICE.

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

BK. #567, PG. #41
DWG. No. 6108_SITE



44 ESTABROOK AVENUE

SEDIMENT AND EROSION CONTROL PLAN
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: 1"= 50' DATE: JUNE 12, 2018

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 10 OF 12 PROJECT No. 6108

NOTES:

- EXISTING GROUND WITHIN THE PROPOSED CHAINLINK FENCE SHALL BE CLEARED, STUMPED AND RE-GRADED TO ELIMINATE MINOR SURFACE DISTURBANCES. RE-VEGETATION OF THE SITE SHALL BE ESTABLISHED WITH LOW GROWTH GROUND COVER.
- THE PROPOSED LIMIT OF WORK LINE ALSO DEPICTS THE EXTENT OF TREE CLEARING TO BE PERFORMED ON THE PROJECT SITE. NO TREES OUTSIDE THE DESIGNATED LIMIT OF WORK LINE ARE TO BE REMOVED BY THE CONTRACTOR.
- COMMON FILL (SITE GRADING AREAS) SHALL CONSIST OF MINERAL SOIL SUBSTANTIALLY FREE FROM ORGANIC MATERIALS, LOAM, WOOD TRASH AND OTHER OBJECTIONABLE MATERIALS WHICH MAY BE COMPRESSIBLE OR WHICH CANNOT BE PROPERLY COMPACTED. SELECT COMMON FILL SHALL NOT CONTAIN STONES LARGER THAN 2-IN. IN LARGEST DIAMETER AND SHALL HAVE A MAXIMUM OF 25% PASSING THE NO. 40 SIEVE AND A MAXIMUM OF 20% PASSING THE NO. 200 SIEVE. SELECT COMMON FILL SHALL NOT CONTAIN GRANITE BLOCKS, BROKEN CONCRETE, MASONRY RUBBLE OR OTHER SIMILAR MATERIALS. IT SHALL HAVE PHYSICAL PROPERTIES SUCH THAT IT CAN BE READILY SPREAD AND COMPACTED DURING FILLING. SNOW, ICE AND FROZEN SOIL WILL NOT BE PERMITTED. SOIL EXCAVATED FROM THE STRUCTURE AREAS AND WHICH MEETS THE ABOVE REQUIREMENTS MAY BE USED.
- ORDINARY FILL SHALL BE WELL GRADED, NATURAL INORGANIC SOIL, FREE OF ORGANIC OR OTHER WEAK OR COMPRESSIBLE MATERIALS, FROZEN MATERIALS, AND OF STONES LARGER THAN TWO THIRDS (2/3) THE LIFT THICKNESS. IT SHALL BE OF SUCH NATURE AND CHARACTER THAT IT CAN BE COMPACTED TO THE SPECIFIED DENSITIES IN A REASONABLE LENGTH OF TIME. IT SHALL BE FREE OF PLASTIC CLAY, OF ALL MATERIALS SUBJECT TO DECAY, DECOMPOSITION, OR DISSOLUTION, AND OF CINDERS OR OTHER MATERIALS THAT WILL CORRODE PIPING OR OTHER METAL. IT SHALL HAVE A MINIMUM DRY DENSITY OF NOT LESS THAN 120 POUNDS PER CUBIC FOOT. MATERIAL FROM EXCAVATION ON THE SITE MAY BE USED AS ORDINARY FILL IF IT MEETS THE ABOVE REQUIREMENTS. ORDINARY FILL SHALL HAVE A MAXIMUM OF 60% PASSING THE #40 SIEVE, AND A MAXIMUM OF 20% PASSING THE #200 SIEVE. IT SHOULD NOT CONTAIN BROKEN CONCRETE, MASONRY RUBBLE OR OTHER SIMILAR MATERIALS, AND SHALL HAVE PHYSICAL PROPERTIES SUCH THAT IT CAN BE READILY SPREAD AND COMPACTED DURING FILLING. SNOW, ICE AND FROZEN SOIL SHALL NOT BE PERMITTED.
- SELECT COMMON FILL (ROADWAY AREAS) SHALL BE PLACED IN LAYERS HAVING A MAXIMUM THICKNESS OF 8 IN. MEASURED BEFORE COMPACTION. EACH LAYER OF FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY DETERMINED BY THE ASTM D1557. COMPACTION OF STRUCTURAL FILL SHALL CONSIST OF FULLY LOADED TEN WHEEL TRUCKS, A TRACTOR DOZER WEIGHING AT LEAST 30,000 LBS AND OPERATED AT FULL SPEED, A HEAVY VIBRATORY ROLLER, OR OTHER METHOD ONLY AS APPROVED BY THE ENGINEER. COMPACTION OF SELECT COMMON FILL IN CONFINED AREAS ADJACENT TO STRUCTURES SHALL BE ACCOMPLISHED BY HAND OPERATED VIBRATORY EQUIPMENT OR MECHANICAL TAMPERS APPROVED BY THE ENGINEER. AS A MINIMUM, COMPACTION OF SELECT COMMON FILL SHALL CONSIST OF FOUR COVERAGES OF THE APPROVED EQUIPMENT.
- SITE PREPARATION SHALL INCLUDE CLEARING, GRUBBING, DELETERIOUS SOILS, VEGETATION AND DEBRIS, ALL TREES, STUMPS, BRUSH, SHRUBS, ROOTS, GRASS, WEEDS, RUBBISH, STONES LARGER THAN 2-IN. IN THE LARGEST DIAMETER AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF FROM AREAS TO BE FILLED AND COMPACTED. AREAS OUTSIDE OF THE LIMITS OF WORK SHALL BE PROTECTED FROM DAMAGE AND NO EQUIPMENT OR MATERIALS SHALL BE STORED IN THESE AREAS. NO STUMPS, TREES, LIMBS, OR BRUSH SHALL BE BURIED IN ANY FILLS OR EMBANKMENTS.
- EROSION AND SEDIMENT CONTROL, BOTH DURING AND AFTER CONSTRUCTION, SHALL BE PROVIDED AS REQUIRED TO RETAIN SEDIMENT ONSITE, AND TO CONTROL EROSION OF EMBANKMENTS, TEMPORARY AND FINAL EXPOSED SLOPES, AND TEMPORARY MATERIAL STOCKPILE(S). SILT FENCES, CHECK DAMS, DRAINAGE DITCHES OR SWALES, TEMPORARY SEEDING, AND PRE-MANUFACTURED TEXTILES, GEOTUBES, GEORIG, CELLULAR GEOWEB, ETC., SHALL BE UTILIZED AS APPROPRIATE. EROSION AND SETTLEMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH ALL PERMITS AND CODES AND THIS SPECIFICATION. DURING THE EXCAVATION OF THE WORK AT THE SITE, OPERATIONS SHALL BE CONTINUOUSLY MONITORED TO AVOID THE CREATION OF CONDITIONS THAT COULD LEAD TO EXCESSIVE EROSION OF SOIL WITH SURFACE RUNOFF FROM THE WORK AREAS. CONTROLS SHALL BE PROVIDED TO PROTECT THE WATER QUALITY AND SHALL BE IN ACCORDANCE WITH PROJECT DOCUMENTS AND ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS. EROSION CONTROL MEASURES SHALL BE EMPLOYED TO REDUCE EROSION OF SLOPES AND SILTATION OF OFF-SITE OUTFALLS AND TRIBUTARIES.
- UPON SIGNS OF CONCENTRATED FLOW BY EVIDENCE OF GULLYING OR RILLING IN DISTURBED AREAS, HAYBALES SHALL BE PLACED IN THESE AREAS, SPACED EVERY 50' IN THE UPGRADIENT SLOPE.
- ALL DISTURBED AREAS SHALL BE RE-ESTABLISHED WITH "NEW ENGLAND CONSERVATION/WILDLIFE MIX" OR APPROVED EQUAL.

ESTABLISHED GUIDELINES FOR NEW
ENGLAND CONSERVATION/WILDLIFE MIX
NEW ENGLAND WETLAND PLANTS, INC.

GENERAL:
THE MIX PROVIDES A PERMANENT COVER OF GRASSES, WILDFLOWERS AND LEGUMES TO PROVIDE BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE. THIS MIX IS DESIGNED TO BE A NO MAINTENANCE SEEDING, AND IT IS APPROPRIATE TO CUT AND FILL SLOPES, DETENTION BASIN SLOPES, AND DISTURBED AREAS ADJACENT TO COMMERCIAL AND RESIDENTIAL PROJECTS. ALWAYS APPLY ON CLEAN BARE SOIL. THE MIX MAY BE APPLIED BY HYDRO-SEEDING, BY MECHANICAL SPREADER, OR ON SMALL SITES IT CAN BE SPREAD BY HAND. LIGHTLY RAKE OR ROLL TO ENSURE PROPER SEED TO SOIL CONTACT. BEST RESULTS ARE OBTAINED WITH A SPRING SEEDING. LATE SPRING THROUGH EARLY SUMMER SEEDING WILL BENEFIT WITH A LIGHT MULCHING OF WEED-FREE STRAW TO CONSERVE MOISTURE. IF CONDITIONS ARE DRIER THAN USUAL, WATERING WILL BE REQUIRED. LATE FALL AND WINTER DORMANT SEEDING REQUIRE AN INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE. PREPARATION OF A CLEAN WEED FREE SOIL SURFACE IS NECESSARY FOR OPTIMAL RESULTS.

SPECIES LIST:

- ELYMUS VIRGINICUS
- SCHIZACHYRIUM SCOPARIUM
- FESTUCA RUBRA
- ANDROPOGON GERARDII
- CHAMAECRISTA FASCICULATA
- PANICUM CLANDESTINUM
- PANICUM VIRGATUM
- SORGHASTRUM NUTANS
- HELENIUM AUTUMNALE
- HELIOPSIS HELIANTHOIDES
- VERBENA HASSTATA
- ASCLEPIAS SYRIACA
- ASTER UMBELLATUS
- EUPATORIUM PURPUREUM
- SOLIDAGO JUNCEA
- ZIZIA AUREA

SEED BED PREPARATION:

REMOVE ALL INVASIVE SPECIES, TILL EXISTING SOIL AND RAKE SMOOTH. APPLY 3" OF COMPOSTED LEAF LITTER. ALL AREAS WHERE ROOTS HAVE BEEN GRUBBED SHALL BE TILLED.

SEED APPLICATION AND RATE:

THE IDEAL PLANTING DEPTH IS 1/4"-1/2". UNDER IDEAL CONDITIONS SEEDS LAYING ON THE SURFACE WILL GERMINATE. RECOMMENDED APPLICATION RATE FOR SEEDING IS 1 LBS PER 1,750 SQUARE FEET.

SEEDING DATES:

FOR FALL INSTALLATION, SEED BETWEEN AUGUST 15 AND SEPTEMBER 10. FOR SPRING INSTALLATION, SEED AS EARLY AS POSSIBLE SOMETIME BETWEEN APRIL 15 AND MAY 10.

FERTILIZATION AND SOIL REQUIREMENTS:

REFER TO MANUFACTURERS RECOMMENDATIONS

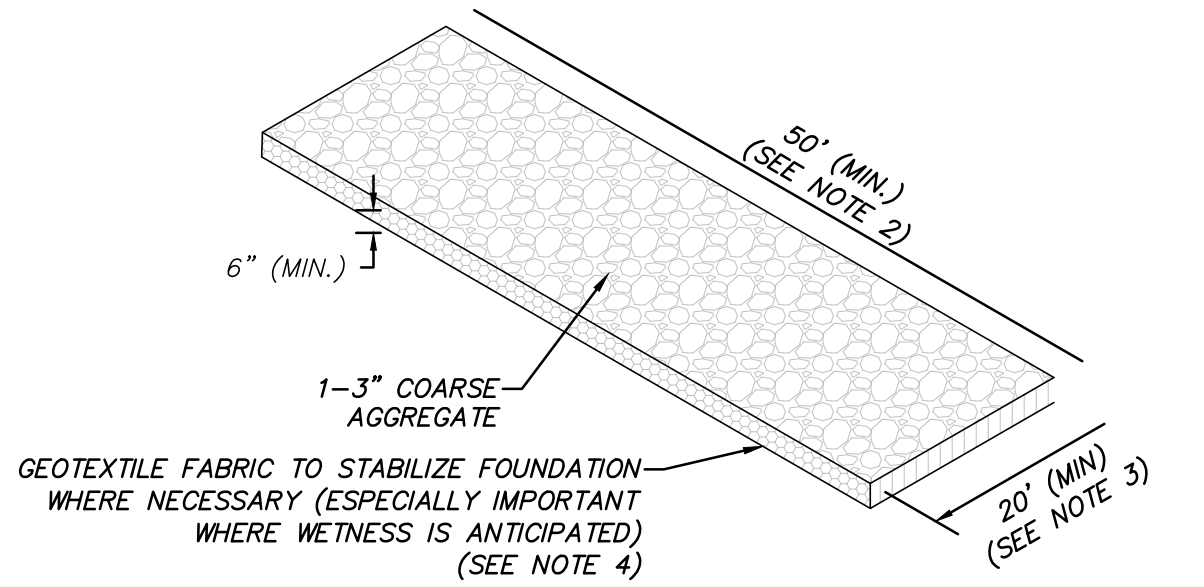
GENERAL MAINTENANCE:

REFER TO MANUFACTURERS RECOMMENDATIONS

ESTABLISHMENT:

REFER TO MANUFACTURERS RECOMMENDATIONS

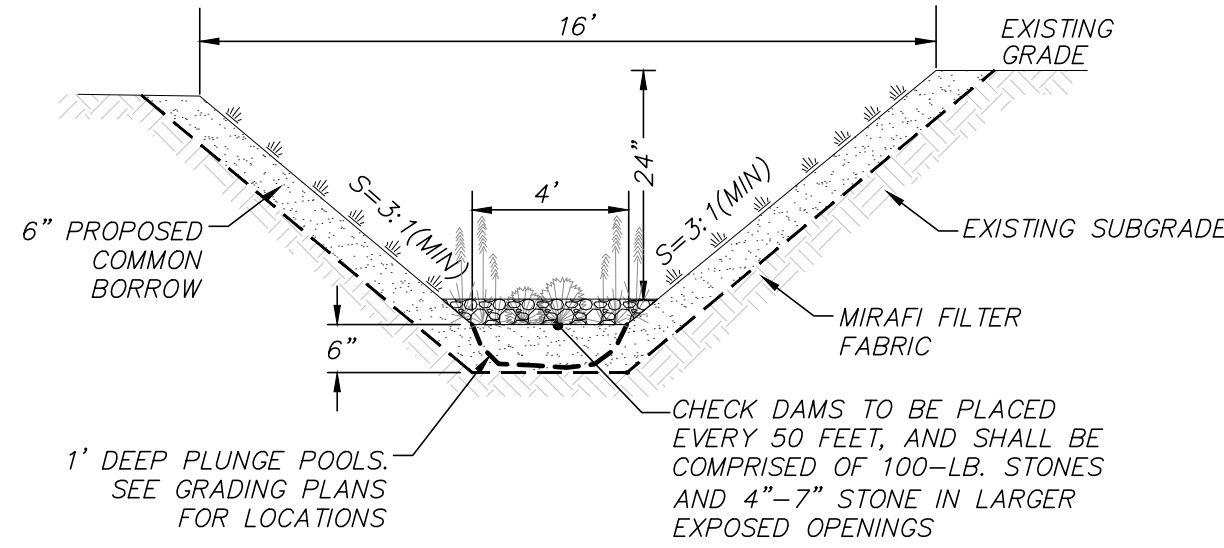
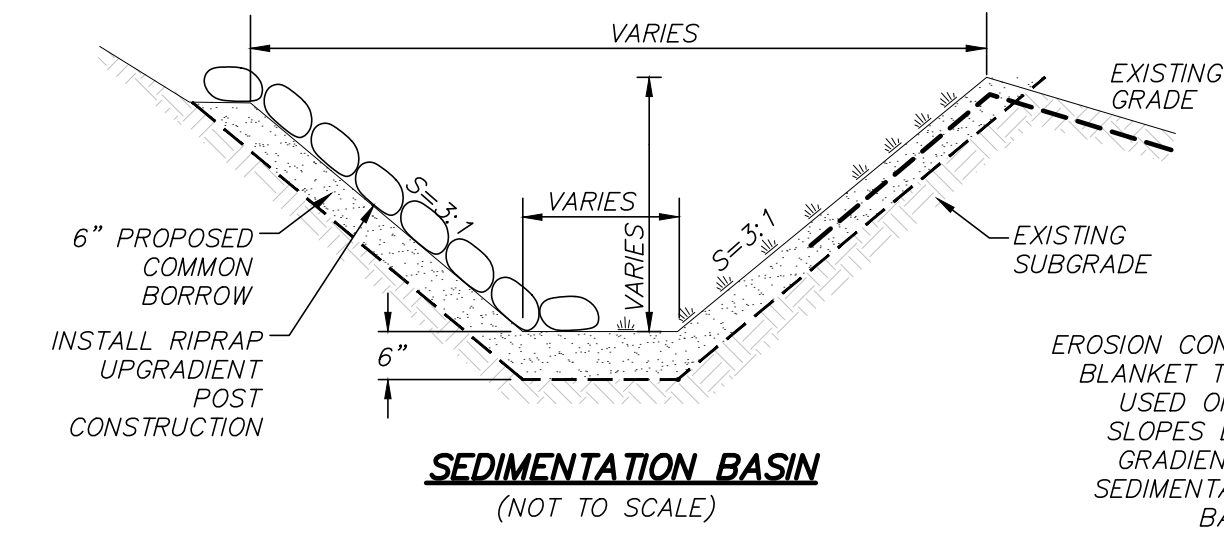
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION



NOTES:

- THE SOLE PURPOSE OF THIS DETAIL IS TO PROVIDE A STABLE ENTRANCE AND EXIT FROM A CONSTRUCTION SITE OR WETLAND CROSSING AND KEEP MUD AND SEDIMENT OFF PUBLIC ROADS AND WETLANDS IN ACCORDANCE WITH THE RECOMMENDATIONS STATED IN THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" AS PREPARED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- EXTEND PAD BEYOND 50 FEET FOR HEAVY CONSTRUCTION TRAFFIC AS NECESSARY. LONGER ENTRANCES WILL PROVIDE BETTER CLEANING ACTION.
- THE PAD SHALL EXTEND THE FULL WIDTH OF THE CONSTRUCTION ACCESS DRIVE.
- WHERE NECESSARY, GEOTEXTILE FILTER FABRIC SHALL BE PLACED BETWEEN THE STONE FILL AND THE EARTH SURFACE BELOW THE PAD TO REDUCE THE MIGRATION OF SOIL PARTICLES FOR UNDERLYING SOIL INTO THE STONE AND VICE VERSA.

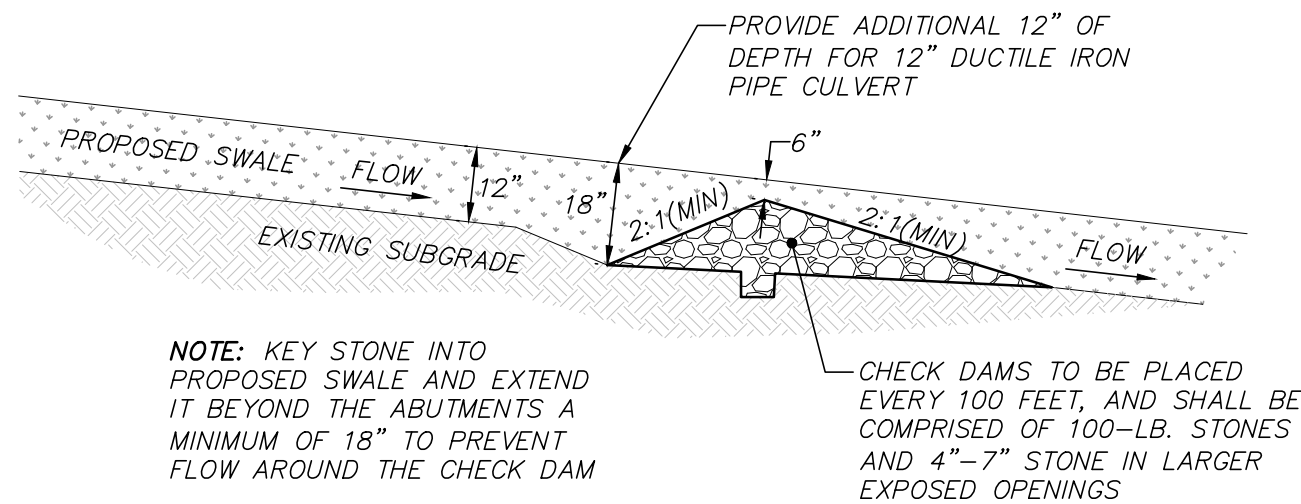
TEMPORARY GRAVEL CONSTRUCTION
TRACKING PAD
(NOT TO SCALE)



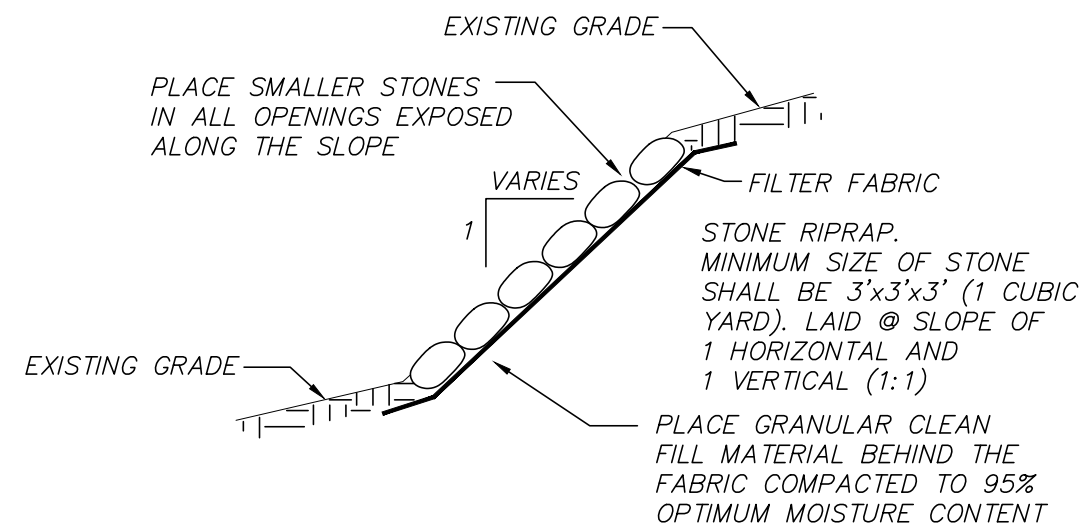
WATER QUALITY SWALE
(NOT TO SCALE)

NOTES:

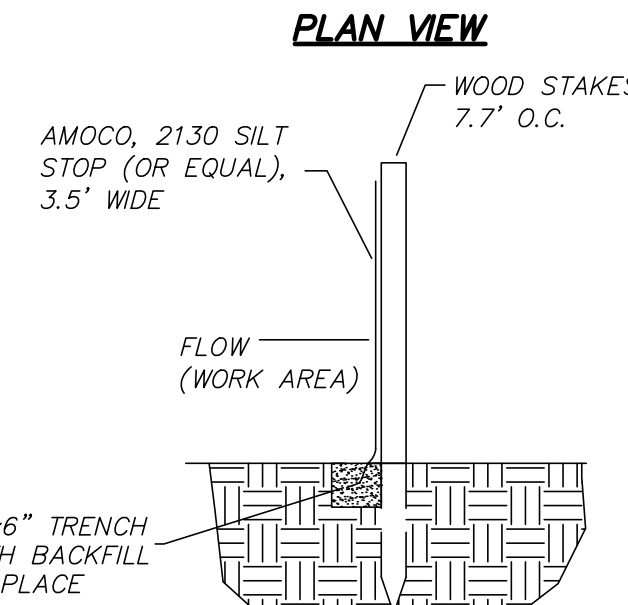
- THE PLANTING PLAN WITHIN THE SWALES SHOULD INCLUDE A MIX OF HERBACEOUS PERENNIALS, SHRUBS, AND UNDERSTORY TREES THAT CAN TOLERATE INTERMITTENT FLOODING, AND EXTENDED DRY PERIODS.
- WATER QUALITY SWALES ARE TO BE SURROUNDED BY THREE (3) FOOT TALL WIRE MESH FENCING.



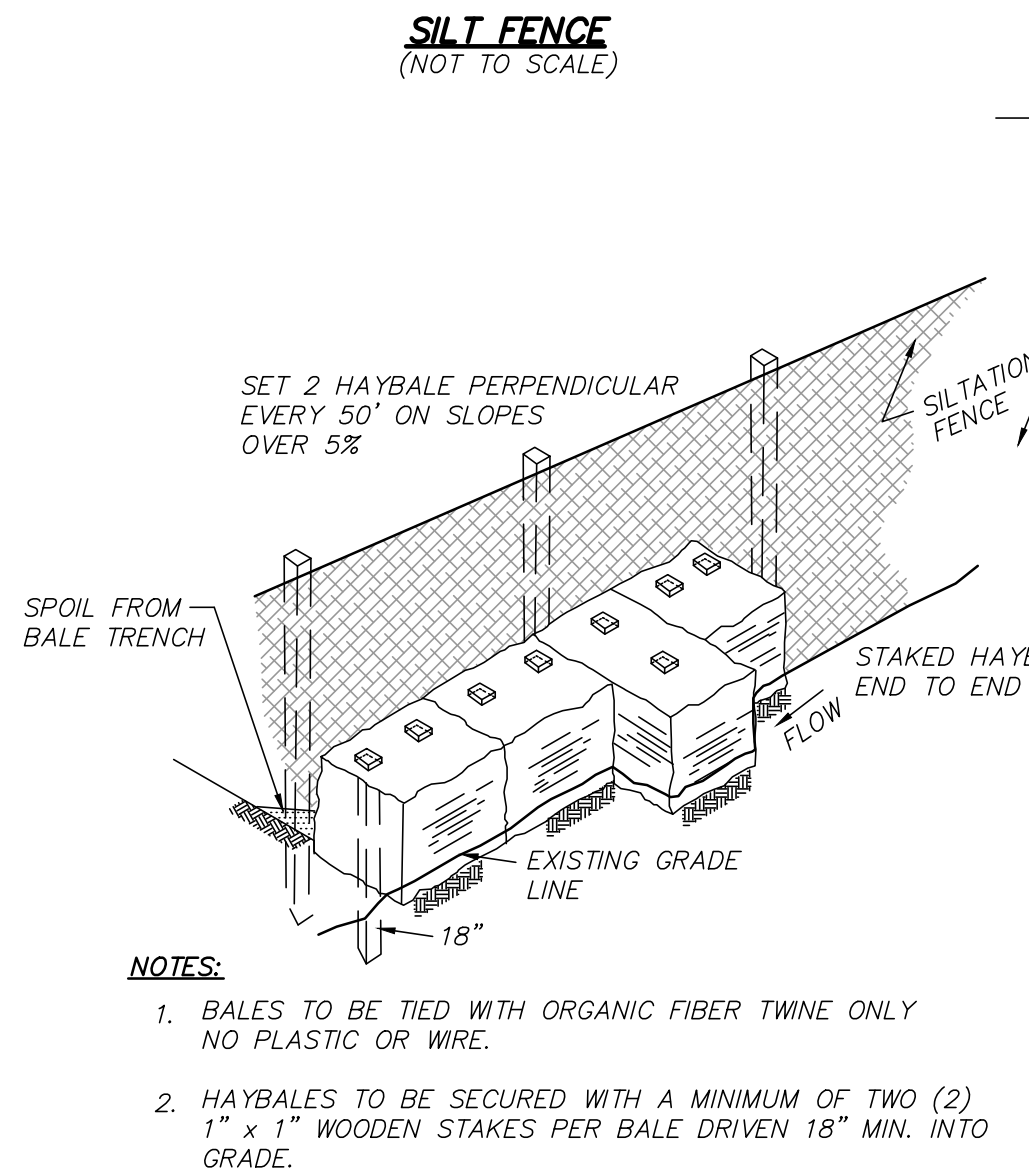
TYPICAL STONE CHECK DAM
(NOT TO SCALE)



STONE RIPRAP SLOPE PROTECTION
(NOT TO SCALE)



CROSS SECTION
SILT FENCE
(NOT TO SCALE)



NOTES:

- BALES TO BE TIED WITH ORGANIC FIBER TWINE ONLY. NO PLASTIC OR WIRE.
- HAYBALES TO BE SECURED WITH A MINIMUM OF TWO (2) 1\"/>

HAYBALE WITH SILT FENCE BARRIER
(NOT TO SCALE)

Proud Member and Participant of:
www.eastcoasterosion.com
443 Bricker Road, Bernville, PA 19506
1.800.582.4005 • 610.488.8496 Fax • 610.488.8494

Material and Performance Specification

ECSC-2™ Double Net Straw/Coconut Rolled Erosion Control Product

Description:
The ECSC-2™ is made with uniformly distributed 70% agricultural straw, 30% coconut fiber and two polypropylene nets securely sewn together with degradable thread. The tightly compressed blankets are wrapped and include a product label, code and installation guide. The blankets are palletized for easy transportation. The ECSC-2™ has functional longevity of approximately 24 months, but will vary depending on soil and climatic conditions, and is suitable for slopes 2:1 to 1:1 and to medium flow channels. The ECSC-2™ meets Type 3.8 specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17.

Material	70% Straw	30% Coconut	Net Color
Netting:	Type: Medium weight UV Stabilized Polypropylene		Green
Middle:	None		
Bottom:	Lightweight Photodegradable Polypropylene		
Net Opening:	Top: 0.5" x 0.5"	Middle: 0.75" x 0.75"	Bottom: 0.75" x 0.75"
Thread:	Type: Degradable Thread	Color: White	
Roll Sizes:	Standard	Al Size	Mega
Width:	7.5 ft. 2.3 m	3.75 ft. 1.1 m	15 ft. 4.6 m
Length:	120 ft. 36.6 m	240 ft. 73.2 m	120 ft. 36.6 m
Weight ±10%:	57 lbs. 25.9 kg	57 lbs. 25.9 kg	114 lbs. 51.7 kg
Area:	100 yd² 83.6 m²	100 yd² 83.6 m²	200 yd² 167.2 m²
#/Pallet:	20	9	16

Index Value Properties:

Property	Test Method	Typical
Mass/Unit Area	ASTM D6475	9.00 oz/yd² 305.1 g/m²
Thickness	ASTM D6525	0.30 in 7.62 mm
Tensile Strength-MD	ASTM D6818	178 lb/ft 2.60 kN/m
Elongation-MD	ASTM D6818	31 %
Tensile Strength-TD	ASTM D6818	148 lb/ft 2.16 kN/m
Elongation-TD	ASTM D6818	22.4 %
Light Penetration	ASTM D6567	13 %
Density / Specific Gravity	ASTM D792	N/A
Water Absorption	ASTM D1117	436 %

*May differ depending upon raw material variations

Bench Scale Testing* (MTPEP™):

Test Method	Parameters	Results
ECTC Method 2 Rainfall	50mm (2in) / hr-30 min	SLR**=8.52
	100mm (4in) / hr-30 min	SLR**=11.01
	150mm (6in) / hr-30 min	SLR**=14.28
ECTC Method 3 Shear Resistance	Shear at 50 in soil loss	2.16 lb/ft
ECTC Method 4 Germination	Top soil; Fescue; 21 day incubation	503 %

*Bench scale tests should not be used for design purposes.
**Soil Loss Ratio=Soil Loss Bare Soil/Soil Loss with RECP-1/C-Factor

*The preceding test data excerpts were reproduced with the permission of AASHTO; however, this does not constitute endorsement or approval of the product, material or device by AASHTO.

General Performance Design Values:

Property	Test Method	Value
C-Factors	ASTM D6459	0.02
Slope Length (L)	≤ 3:1	3:1-2:1
< 50 ft (15 m)	0.017	0.080
50 ft - 100 ft	0.031	0.125
>100 ft (30 m)	0.080	0.090

*Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

General Performance Design Values:

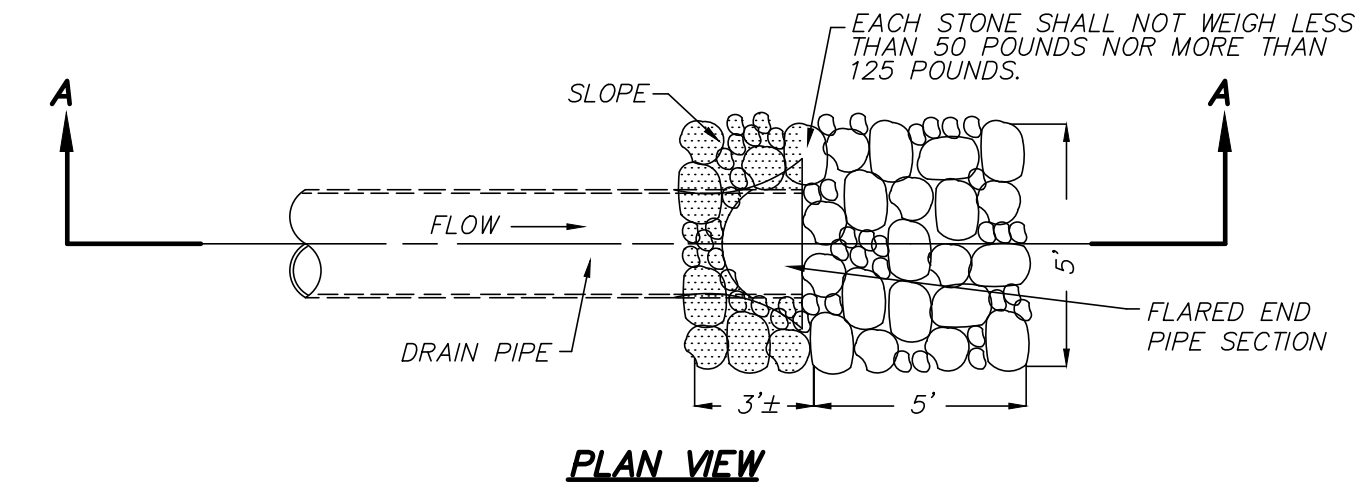
Property	Test Method	Value
Unvegetated Shear Stress	ASTM D 6460	2.25 lbs/ft² 107.73 Pa
Unvegetated Velocity	ASTM D 6460	8.0 ft/s 2.44 m/s
Vegetated Shear Stress	N/A	N/A lbs/ft² N/A Pa
Vegetated Velocity	N/A	N/A ft/s N/A m/s
Manning's N (Value Represents a Range)		0.029

*Large-Scale Results obtained by 3rd Party GAI Accredited Independent Laboratory

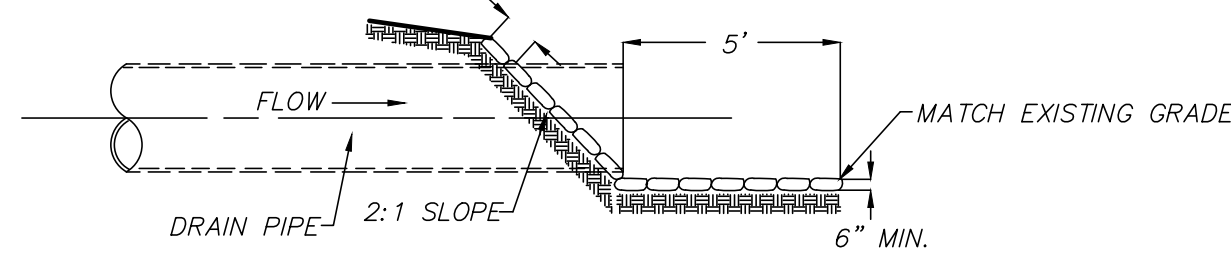
The values presented are for guidance purposes and do not constitute the practice of engineering. East Coast Erosion Control LLC (ECCB) warrants that at the time of manufacture, all information presented herein is accurate and reliable and that the REEB product complies with the stated values and ECEB is not liable in writing prior to installation, the product will be replaced at no cost to the purchaser. ECEB will not be held liable for any type of damage or losses, directly or indirectly, for failure of this product. Current revision supersedes all previous versions for this product.

Revised 1/2/2014

EROSION CONTROL BLANKET, OR APPROVED EQUAL
(NOT TO SCALE)



PLAN VIEW



SECTION A-A

STONE RIPRAP DETAIL
(NOT TO SCALE)

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

DWG. No. 6108_DET

GENERAL SEQUENCE OF CONSTRUCTION:

- CONTACT DIGSAFE (888.344.7233) AND OBTAIN CLEARANCE AT LEAST 72 HOURS BEFORE INITIATING ANY EXCAVATION.
- SITE PREPARATION SHALL BE CONDUCTED IN TWO (2) PHASES IN ORDER TO MAXIMIZE EROSION AND SEDIMENTATION CONTROL PHASE I:
 - ESTABLISH PHASE I EROSION AND SEDIMENTATION CONTROL MEASURES (HAYBALES & SILT FENCE) AS DEPICTED HEREIN AND AROUND AREAS OF DISTURBANCE AND MAINTAIN THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH LOCAL REQUIREMENTS. PERFORM INSPECTIONS, REPAIR IF NECESSARY, AND DOCUMENT AFTER EACH PRECIPITATION EVENT OF 0.25-INCHES OR GREATER.
 - PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT PAD AT BOSTON POST ROAD. THE PAD SHALL CONSIST OF 1"-3" COARSE AGGREGATE WITH MINIMUM DIMENSIONS OF 50' (LENGTH) x 20' (WIDTH) x 6" (DEPTH) AND SET ON GEOTEXTILE FABRIC TO STABILIZE FOUNDATION (ESPECIALLY IMPORTANT WHERE WEETNESS IS ANTICIPATED).
 - PERFORM LIMITED CLEARING ACTIVITIES IN ORDER TO CONSTRUCT GRAVEL ACCESS DRIVE AND TURNAROUND.
- SITE PREPARATION SHALL INCLUDE CLEARING AND REMOVAL OF EXISTING VEGETATION AND DEBRIS. ALL TREES, STUMPS, BRUSH, SHRUBS, ROOTS, GRASS, WEEDS, RUBBISH, BITUMINOUS PAVEMENT, STONES LARGER THAN 2-IN. IN THE LARGEST DIAMETER AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF FROM AREAS TO BE FILLED AND COMPACTED. AREAS OUTSIDE OF THE LIMITS OF WORK SHALL BE PROTECTED FROM DAMAGE. NO STUMPS, TREES, LIMBS, OR BRUSH SHALL BE BURIED IN ANY FILLS OR EMBANKMENTS.
- CONSTRUCT SEDIMENTATION BASINS (SHOWN ON PLANS).
- GRUBBING OF AREAS WITHIN THE PROPOSED FENCE AND GRADING AREAS ONLY SHALL BE CONDUCTED AFTER THE INSTALLATION OF THE SEDIMENTATION BASIN.
- FOR AREAS WHERE NO GRADING IS PROPOSED, REPAIR UNEVEN AREAS WITHIN LIMITS OF THE SOLAR DEVELOPMENT, AS NECESSARY TO CREATE A TOLERABLE GROUND SURFACE. GENERAL TOLERANCE FOR ALLOWABLE GROUND SLOPE IS TWO FOOT VERTICAL CHANGE OVER A 20 FOOT HORIZONTAL RUN [NOTE THAT THIS REFERS TO THE ALLOWABLE LONGITUDINAL SLOPE (I.E., ALONG THE CONTOUR) AND NOT THE INCLINATION OF THE EXPOSURE (I.E., PERPENDICULAR TO THE CONTOUR)].
- UPON SIGNS OF CONCENTRATED FLOW BY EVIDENCE OF GULLYING OR RILLING IN DISTURBED AREAS, HAYBALES, OR APPROVED EQUAL, SHALL BE PLACED IN THESE AREAS, SPACED EVERY 50' IN THE UPGRADIENT SLOPE.

PHASE II:

- ESTABLISH PHASE II EROSION AND SEDIMENTATION CONTROL MEASURES (HAYBALES & SILT FENCE) AS DEPICTED HEREIN AND AROUND AREAS OF DISTURBANCE AND MAINTAIN THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH LOCAL REQUIREMENTS. PERFORM INSPECTIONS, REPAIR IF NECESSARY, AND DOCUMENT AFTER EACH PRECIPITATION EVENT OF 0.25-INCHES OR GREATER (PHASE I EROSION CONTROL IS TO REMAIN IN PLACE AND MAINTAINED AS DESCRIBED ABOVE).
- REPEAT STEPS 5, 6, 7, 8 AND 9 ABOVE FOR PHASE II.
- RECEIVE AND STAGE MATERIALS. RE-LOCATE COMPONENTS (E.G., CONDUIT, WIRING AND POSTS) TO SOLAR DEVELOPMENT AREA AS THEY ARE REQUIRED.
- INSTALL RACKING SYSTEM, MOUNT THE PV PANELS ON FRAME AT THE SPECIFIED ORIENTATION AND EXPOSURE (TO BE PROVIDED BY PROJECT MEP PRIOR TO CONSTRUCTION).
- RUN UNDERGROUND ELECTRICAL CONDUIT TO PV FRAMES AND INSTALL PANEL WIRING. (LOCATION TO BE PROVIDED BY PROJECT MEP PRIOR TO CONSTRUCTION)
- INSTALL PV COMBINER BOXES WITH FLEXIBLE CONNECTIONS TO CONNECT PV PANELS TO CONDUIT. (LOCATION TO BE PROVIDED BY PROJECT MEP PRIOR TO CONSTRUCTION)
- CONSTRUCT CONCRETE EQUIPMENT PADS. INSTALL AND CONNECT GROUND MOUNTED ELECTRICAL EQUIPMENT. A DISCONNECT LOCATION WILL BE ON THE OUTSIDE ON THE NARROWEST SIDE OF THE PLATFORM.
- RUN CONDUIT FROM THE CONCRETE EQUIPMENT PADS TOWARDS THE POINT OF INTERCONNECTION AS DEPICTED ON THE SITE PLAN.
- INSTALL RISER POLES AND UTILITY POLES WITH ELECTRICAL COMPONENTS AND OVERHEAD WIRING FROM THE POINT OF INTERCONNECTION TO THE ARRAY.
- CONSTRUCT ALL 7' HIGH CHAIN LINK FENCE AND GATES. (SHOWN ON PLANS)
- ALL DISTURBED AREAS SHALL BE RE-ESTABLISHED WITH "NEW ENGLAND CONSERVATION/WILDLIFE MIX" (DEPICTED HEREIN). IN THE EVENT THAT THE SEEDING FALLS OUTSIDE OF THE RECOMMENDED SEEDING DATES, DISTURBED AREAS SHALL BE RE-ESTABLISHED USING ALTERNATIVES METHODS AS APPROVED BY THE PROJECT SITE ENGINEER.
- REMOVE ANY ACCUMULATED SEDIMENT FROM THE SEDIMENTATION BASINS. THE SEDIMENTATION BASINS ARE TO BE LINED WITH RIPRAP AND REMAIN IN PLACE AFTER CONSTRUCTION.
- RE-PAVE THE BITUMINOUS CONCRETE AT THEN ENTRANCE TO THE SITE. (SHOWN ON PLANS)
- UPON COMPLETION OF CONSTRUCTION ACTIVITIES WITHIN THE LIMIT OF WORK, THE CONTRACTOR SHALL EFFECTIVELY AND PERMANENTLY STABILIZE THE SITE.

44 ESTABROOK AVENUE

EROSION AND SEDIMENT CONTROL DETAILS
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC

SCALE: AS NOTED DATE: JUNE 12, 2018



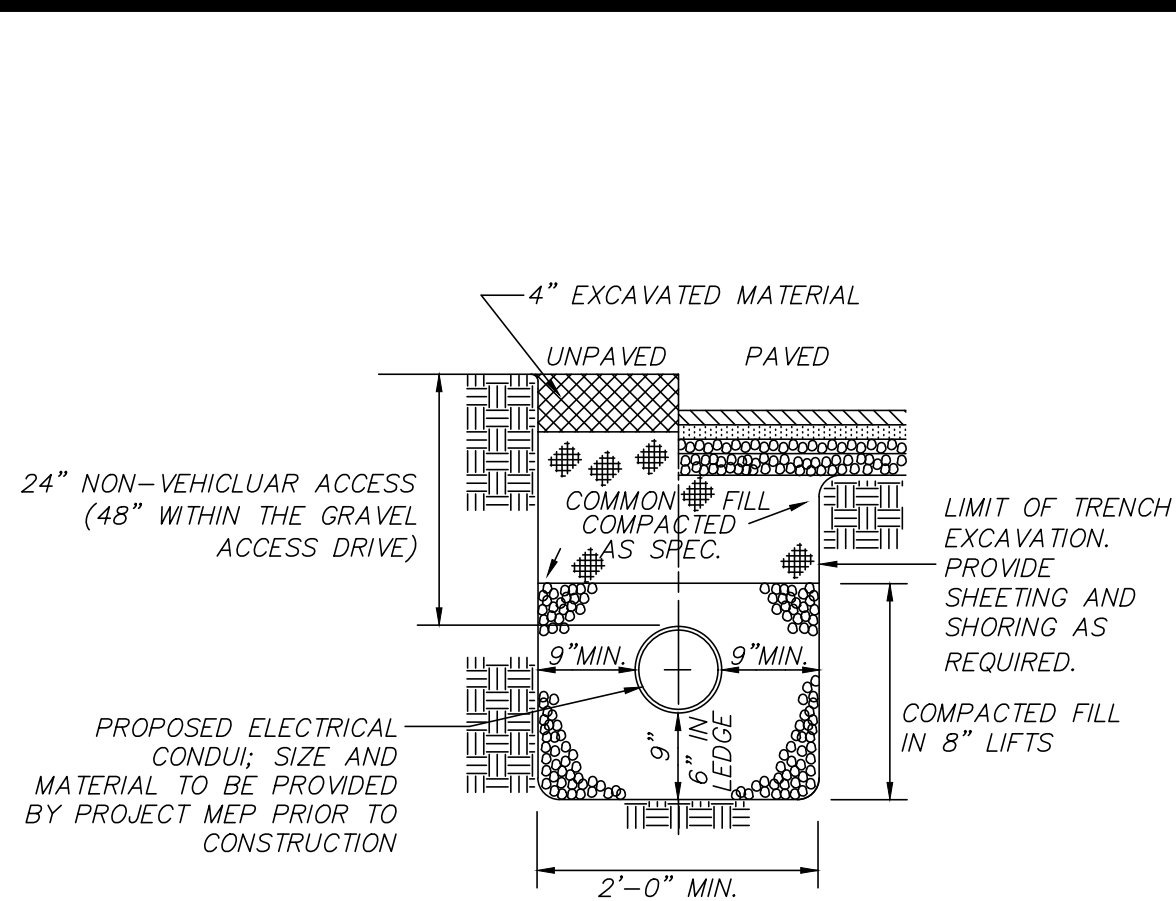
MERIDIAN ASSOCIATES

500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
TELEPHONE: (978) 299-0447
WWW.MERIDIANASSOC.COM

69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (508) 871-7030

SHEET No. 11 OF 12 PROJECT No. 6108

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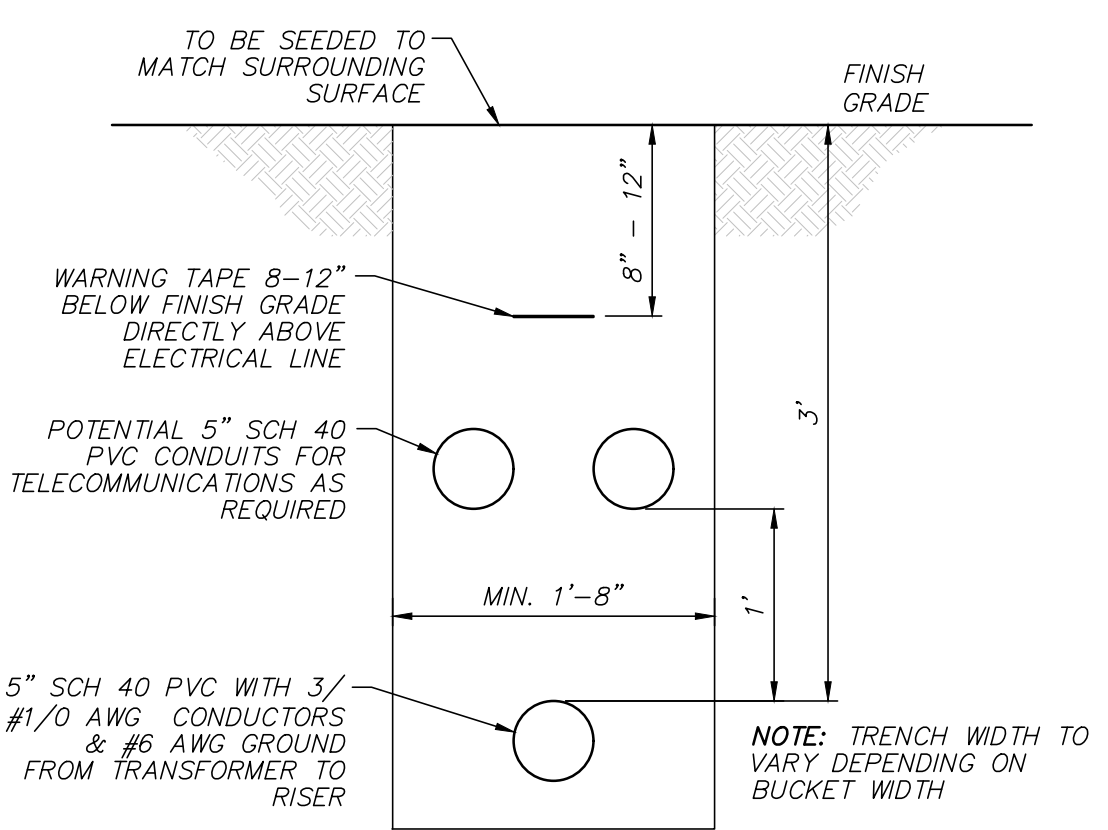
FILL SPECIFICATION

FINE AGGREGATE SHALL CONSIST OF HARD, DURABLE SAND, FINE OF CLAY, ORGANIC MATTER, SURFACE COATINGS, AND OTHER DELETERIOUS MATERIALS. SOIL FINER THAN THE No. 200 SIEVE (THE FINES) SHALL BE NONPLASTIC. FINE AGGREGATE FILL SHALL CONFORM TO THE REQUIREMENTS OF THE 1988 MASS. HIGHWAY DEPT. STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, SECTION M4.02.02A (2010 SUPPLEMENTAL SPECIFICATIONS). FINE AGGREGATE SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

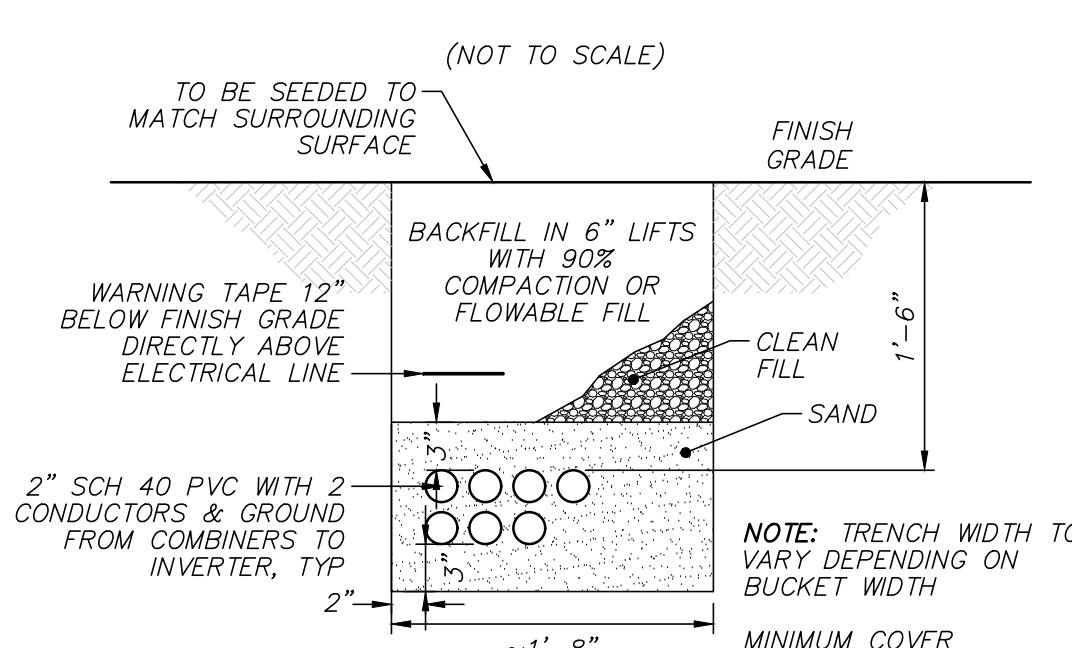
SIEVE SIZE	PERCENT PASSING BY WEIGHT
3/8 INCH	100
No. 4	95 - 100
No. 16	45 - 80
No. 50	10 - 30
No. 100	2 - 10
No. 200 (FINES)	0 - 3

FINE AGGREGATE FILL SHALL BE COMPACTED IN MAXIMUM 9-INCH-THICK LOOSE LIFTS TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D1557 (MODIFIED AASHTO COMPACTION)

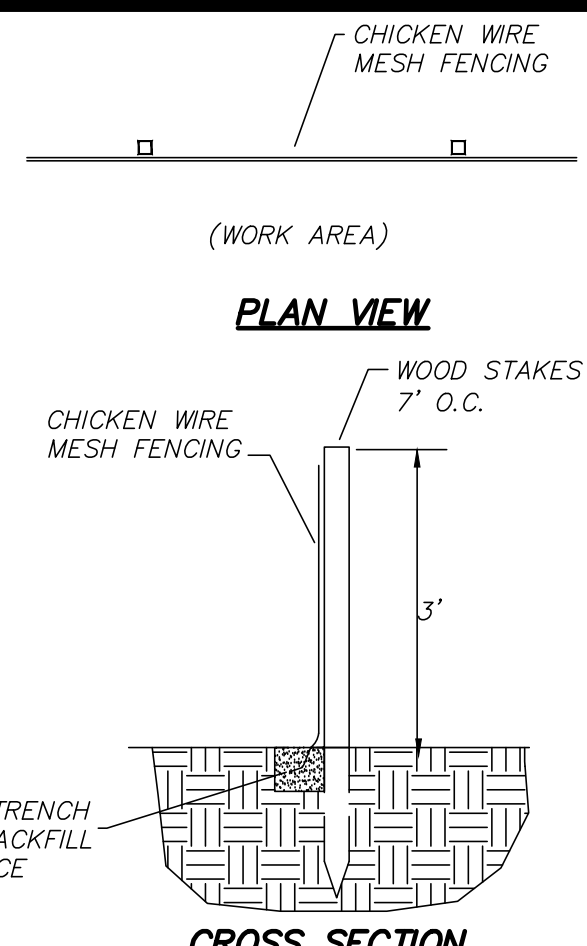
TYPICAL CONDUIT TRENCH DETAIL
(NOT TO SCALE)



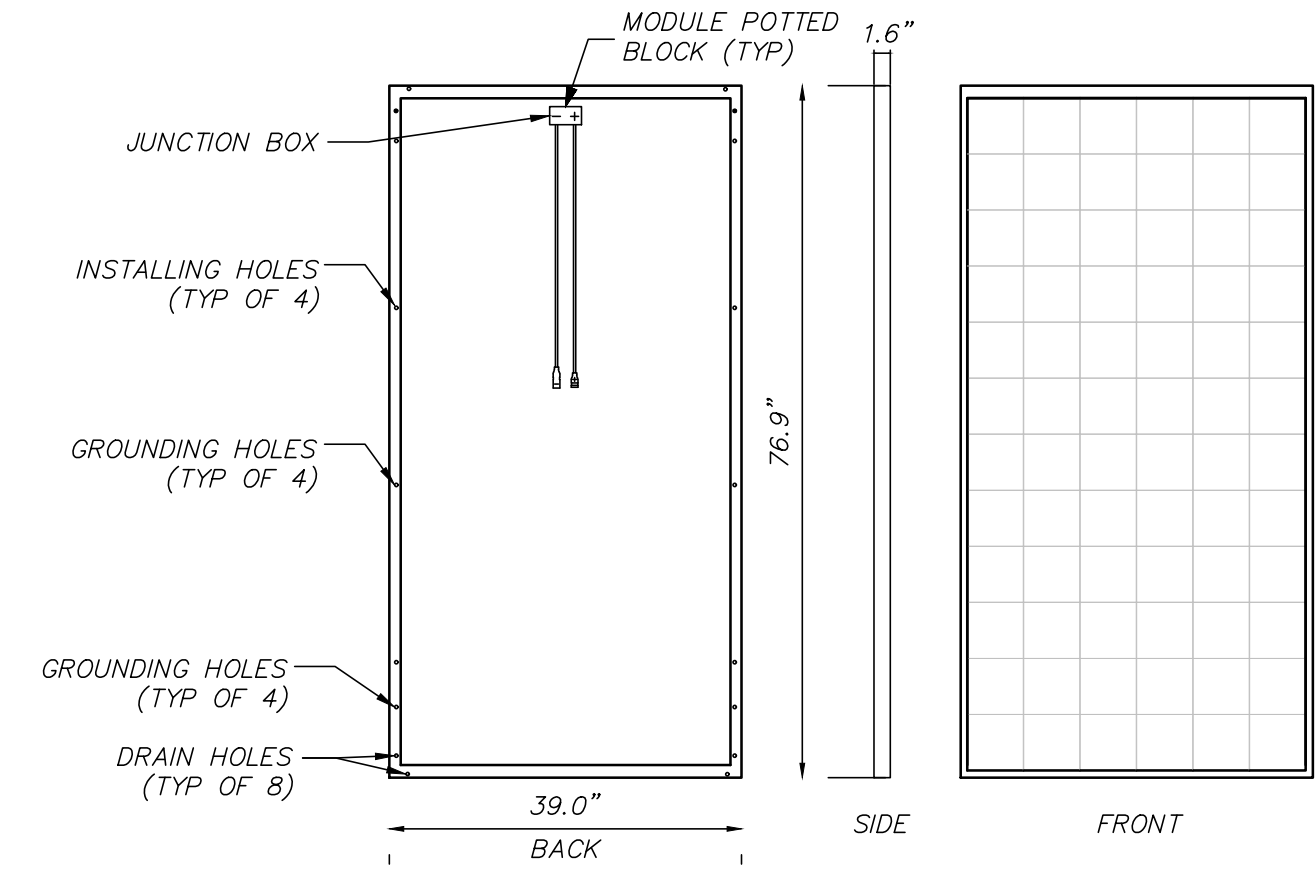
TYPICAL AC CONDUIT TRENCH DETAIL
(NOT TO SCALE)



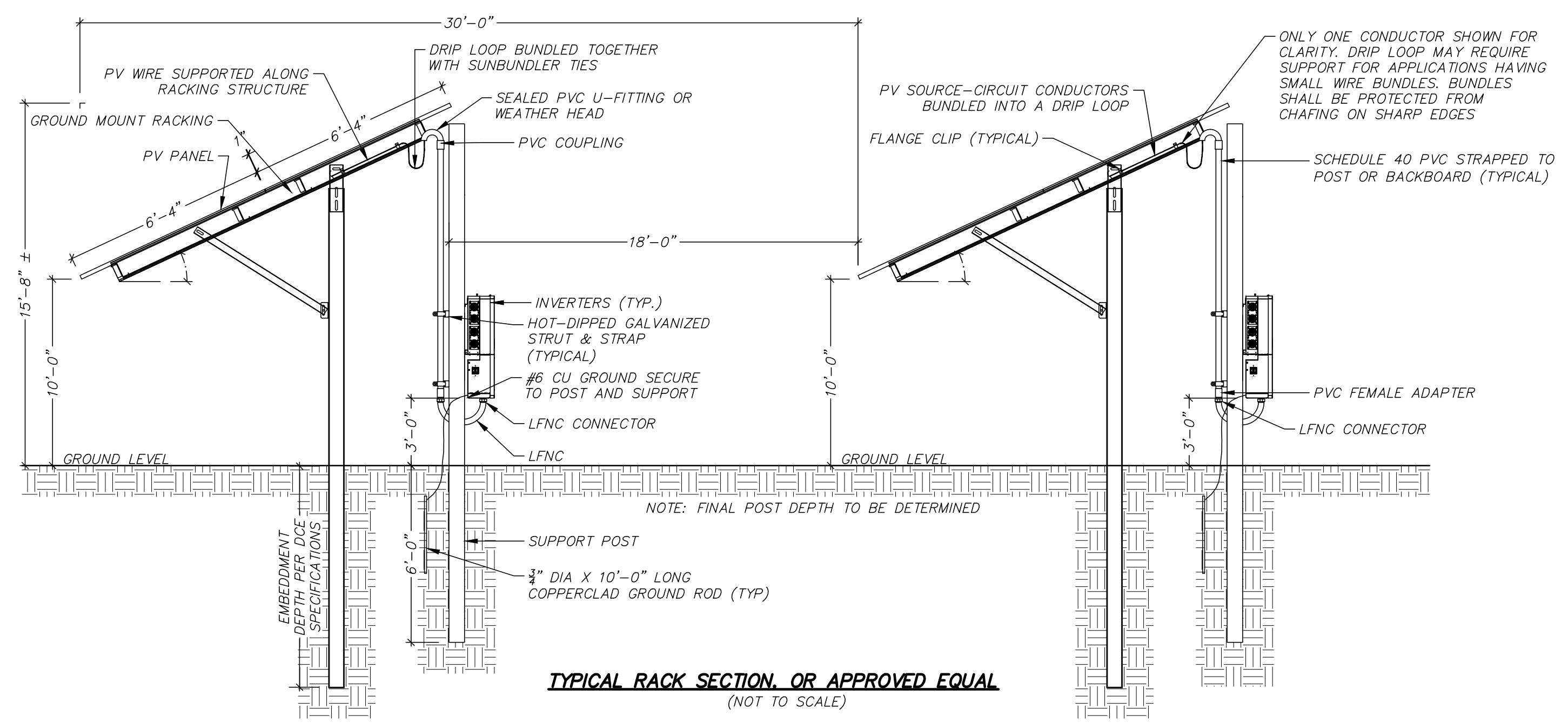
TYPICAL DC CONDUIT TRENCH DETAIL
(NOT TO SCALE)



WIRE MESH FENCE DETAIL
(NOT TO SCALE)

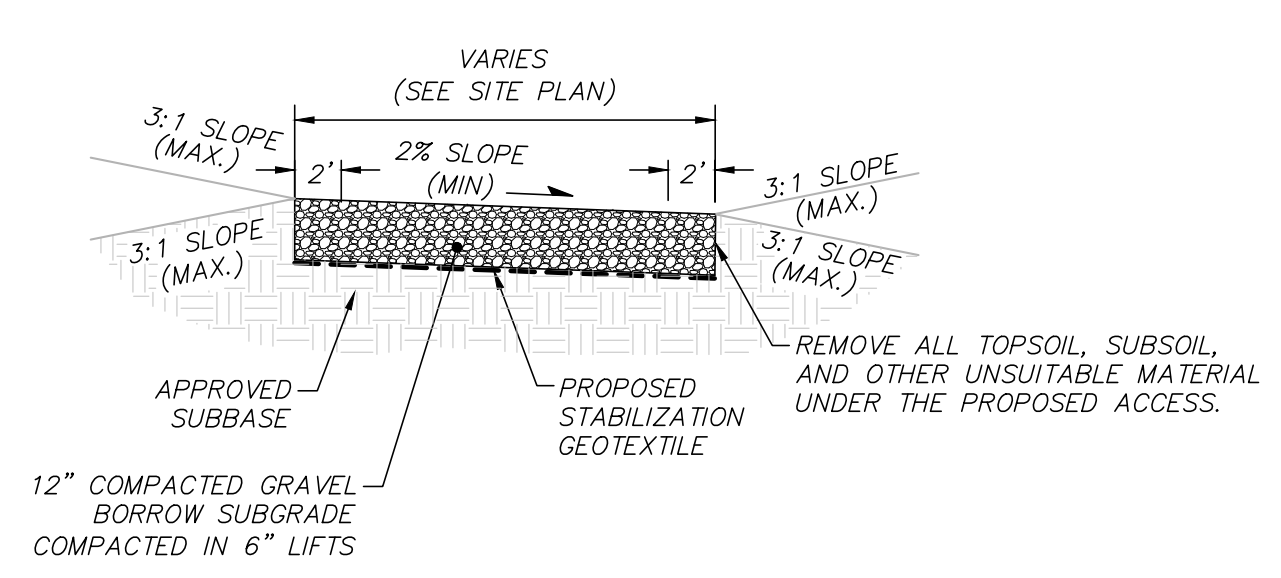


TYPICAL PV MODULE OR APPROVED EQUAL
(NOT TO SCALE)

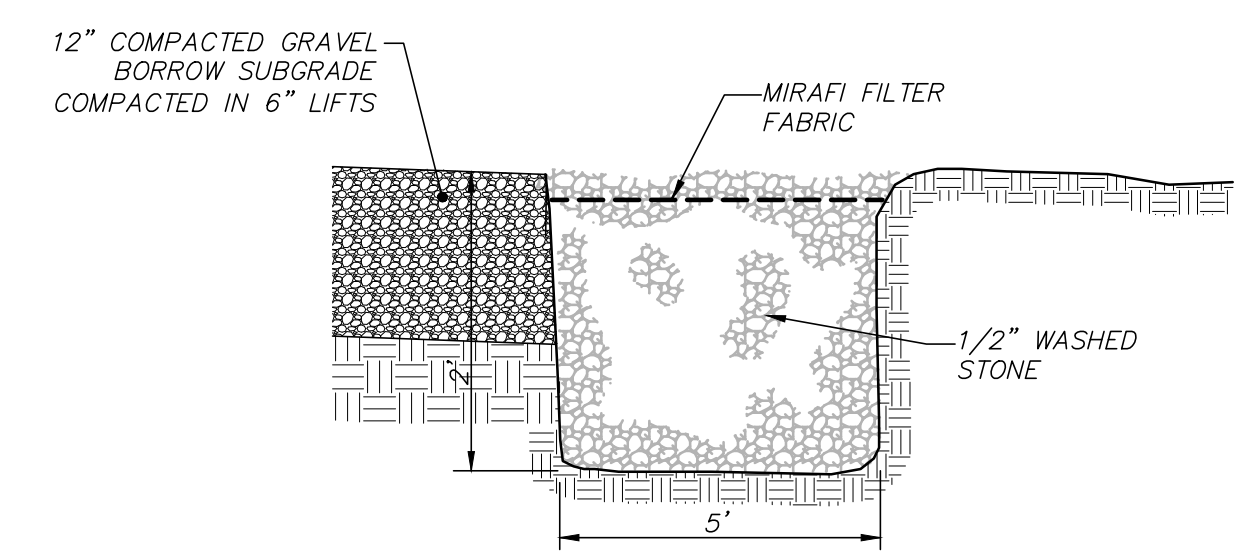


TYPICAL RACK SECTION OR APPROVED EQUAL
(NOT TO SCALE)

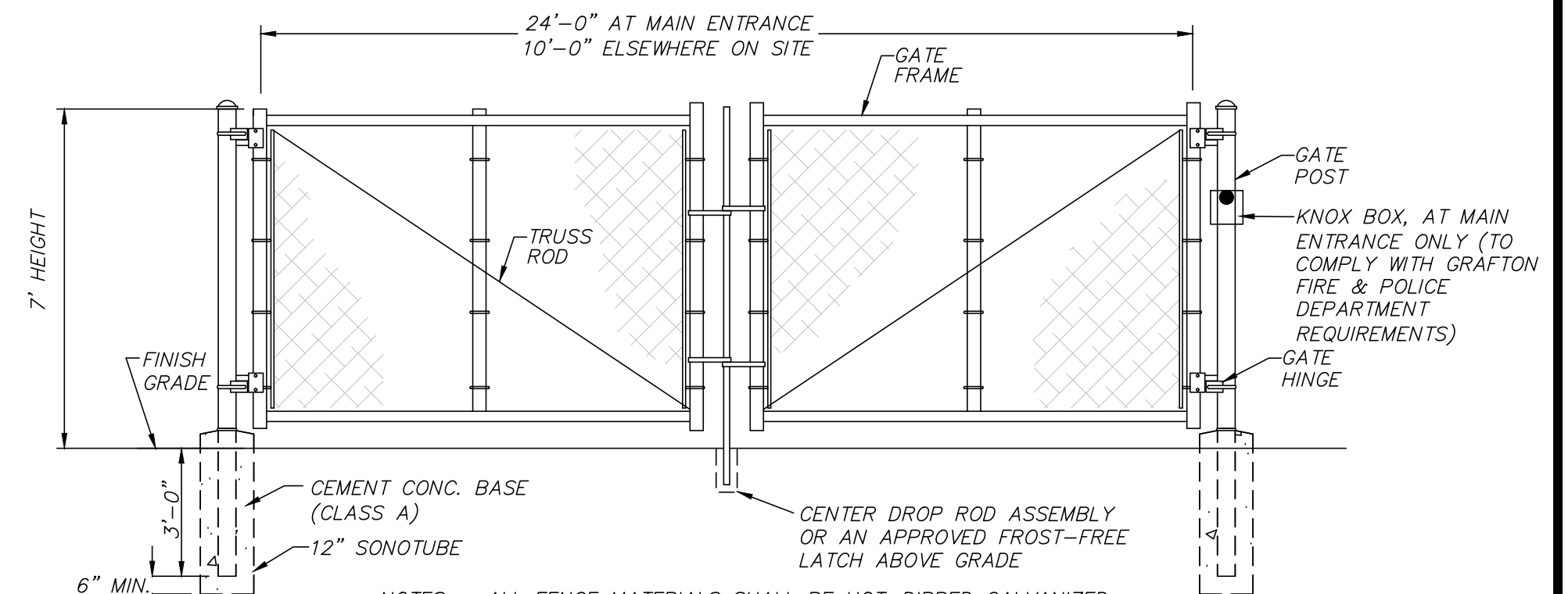
PLANTING MAINTENANCE NOTES:
LANDSCAPING SHALL BE PROPERLY MAINTAINED, ANY DEAD OR DISEASED PLANTINGS SHALL BE REPLACED IN THE NEXT IMMEDIATE SPRING OR FALL PLANTING SEASON.



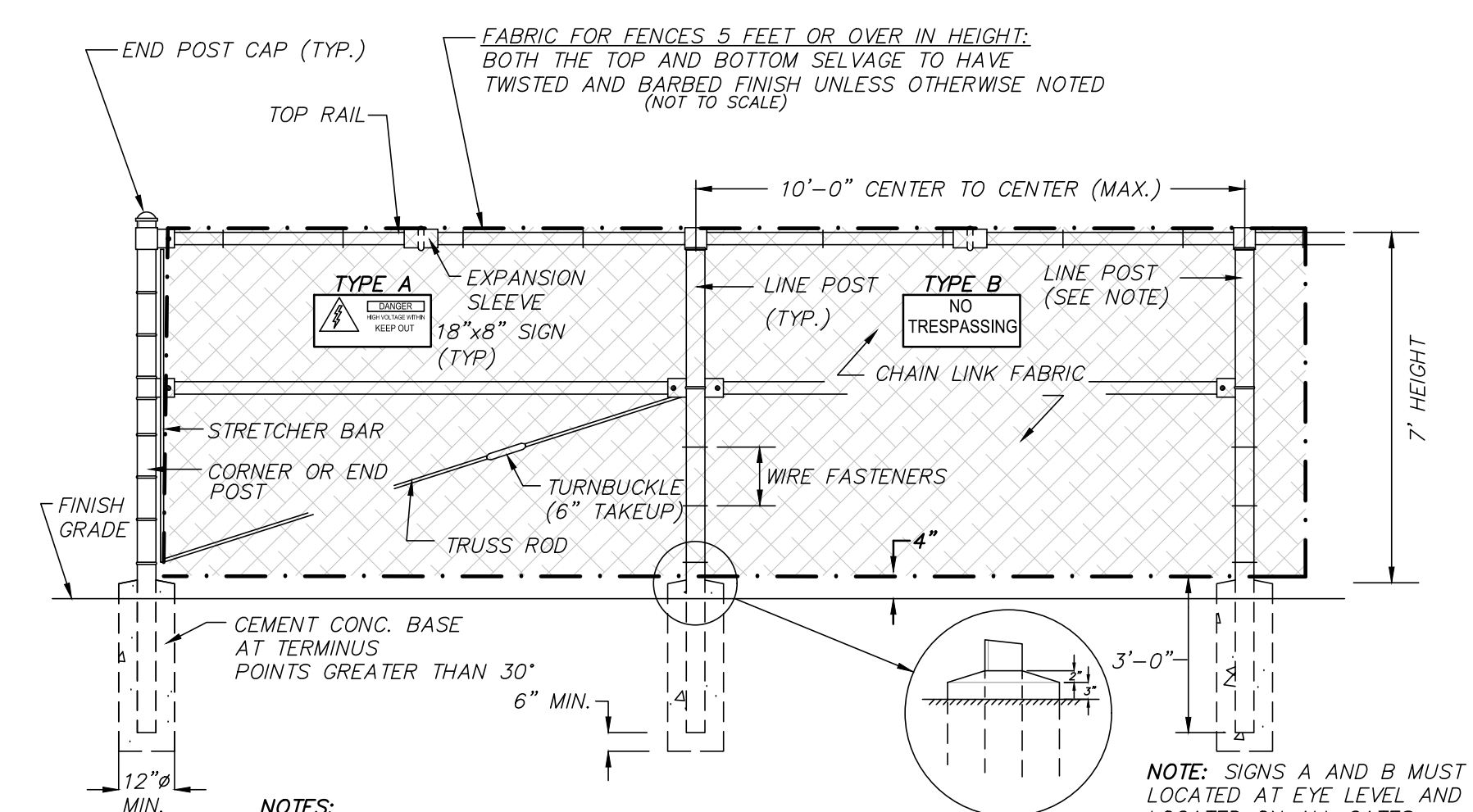
TYPICAL GRAVEL ACCESS DRIVE CROSS SECTION
(NOT TO SCALE)



GRAVEL STONE TRENCH DETAIL
(NOT TO SCALE)



TYPICAL CHAIN LINK DOUBLE-SWING VEHICLE GATE
(NOT TO SCALE)



NOTES:

1. ALL FENCE MATERIALS SHALL BE HOT-DIPPED GALVANIZED
2. PERIMETER FENCING SHALL BE RAISED 4" OFF OF FINISHED GRADE.

NOTE: SIGNS A AND B MUST BE LOCATED AT EYE LEVEL AND LOCATED ON ALL GATES. DISTANCE BETWEEN SIGNS MUST NOT EXCEED 50'.

AFFIX APPROPRIATE COMPANY OWNER NAME AND CONTACT INFO DECAL TO BOTH SIGNS A AND B.

TYPICAL CHAIN LINK FENCE W/ TOPRAIL DETAIL OR APPROVED EQUAL
(NOT TO SCALE)



44 ESTABROOK AVENUE

SITE DETAILS
LOCATED IN
GRAFTON, MASSACHUSETTS
(WORCESTER COUNTY)

PREPARED FOR
BLUEWAVE CAPITAL, LLC
SCALE: AS NOTED DATE: JUNE 12, 2018

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950 BEVERLY, MASSACHUSETTS 01915
69 MILK STREET, SUITE 302 WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (978) 299-0447 TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 12 OF 12 PROJECT No. 6108

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

DWG. No. 6108_DET